



264

SEQUENCE LISTING

<110> Fishman, Mark C.

<120> Methods for Diagnosing and Treating
Heart Disease

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<140> US 09/759,508

<141> 2001-01-12

<150> US 60/175,787

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Pro Val Pro Glu Val Ser Trp Phe Arg Asp Gly Gln Val Ile Ser Thr
 35          40          45
Ser Thr Leu Pro Gly Val Gln Ile Ser Phe Ser Asp Gly Arg Ala Lys
 50          55          60
Leu Thr Ile Pro Ala Val Thr Lys Ala Asn Ser Gly Arg Tyr Ser Leu
 65          70          75          80
Lys Ala Thr Asn Gly Ser Gly Gln Ala Thr Ser Thr Ala Glu Leu Leu
 85          90          95
Val Lys Ala Glu Thr Ala Pro Pro Asn Phe Val Gln Arg Leu Gln Ser
 100         105         110
Met Thr Val Arg Gln Gly Ser Gln Val Arg Leu Gln Val Arg Val Thr

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 Pro Glu Gly Arg Lys Gly Leu Gln Arg Ile Glu Glu Leu Glu Arg Met
 1765 1770 1775
 Ala His Glu Gly Ala Leu Thr Gly Val Thr Asp Gln Lys Glu Lys
 1780 1785 1790
 Gln Lys Pro Asp Ile Val Leu Tyr Pro Glu Pro Val Arg Val Leu Glu
 1795 1800 1805
 Gly Glu Thr Ala Arg Phe Arg Cys Arg Val Thr Gly Tyr Pro Gln Pro
 1810 1815 1820
 Lys Val Asn Trp Tyr Leu Asn Gly Gln Leu Ile Arg Lys Ser Lys Arg
 1825 1830 1835 1840
 Phe Arg Val Arg Tyr Asp Gly Ile His Tyr Leu Asp Ile Val Asp Cys
 1845 1850 1855
 Lys Ser Tyr Asp Thr Gly Glu Val Lys Val Thr Ala Glu Asn Pro Glu
 1860 1865 1870
 Gly Val Ile Glu His Lys Val Lys Leu Glu Ile Gln Gln Arg Glu Asp
 1875 1880 1885
 Phe Arg Ser Val Leu Arg Arg Ala Pro Glu Pro Arg Pro Glu Phe His
 1890 1895 1900
 Val His Glu Pro Gly Lys Leu Gln Phe Glu Val Gln Lys Val Asp Arg
 1905 1910 1915 1920
 Pro Val Asp Thr Thr Glu Thr Lys Glu Val Val Lys Leu Lys Arg Ala
 1925 1930 1935
 Glu Arg Ile Thr His Glu Lys Val Pro Glu Glu Ser Glu Glu Leu Arg
 1940 1945 1950
 Ser Lys Phe Lys Arg Arg Thr Glu Glu Gly Tyr Tyr Glu Ala Ile Thr
 1955 1960 1965
 Ala Val Glu Leu Lys Ser Arg Lys Lys Asp Glu Ser Tyr Glu Glu Leu
 1970 1975 1980
 Leu Arg Lys Thr Lys Asp Glu Leu Leu His Trp Thr Lys Glu Leu Thr
 1985 1990 1995 2000
 Glu Glu Glu Lys Ala Leu Ala Glu Glu Lys Ile Thr Ile Pro

2005	2010	2015	
Thr Phe Lys Pro Asp Lys Ile Glu Leu Ser Pro Ser Met	Glu Ala Pro		
2020	2025	2030	
Lys Ile Phe Glu Arg Ile Gln Ser Gln Thr Val Gly Gln	Gly Ser Asp		
2035	2040	2045	
Ala His Phe Arg Val Arg Val Val Gly Lys Pro Asp Pro	Glu Cys Glu		
2050	2055	2060	
Trp Tyr Lys Asn Gly Val Lys Ile Glu Arg Ser Asp Arg	Ile Tyr Trp		
2065	2070	2075	
Tyr Trp Pro Glu Asp Asn Val Cys Glu Leu Val Ile Arg	Asp Val Thr		
2085	2090	2095	
Ala Glu Asp Ser Ala Ser Ile Met Val Lys Ala Ile Asn	Ile Ala Gly		
2100	2105	2110	
Glu Thr Ser Ser His Ala Phe Leu Leu Val Gln Ala Lys	Gln Leu Ile		
2115	2120	2125	
Thr Phe Thr Gln Glu Leu Gln Asp Val Val Ala Lys Glu	Lys Asp Thr		
2130	2135	2140	
Met Ala Thr Phe Glu Cys Glu Thr Ser Glu Pro Phe Val	Lys Val Lys		
2145	2150	2155	2160
Trp Tyr Lys Asp Gly Met Glu Val His Glu Gly Asp Lys	Tyr Arg Met		
2165	2170	2175	
His Ser Asp Arg Lys Val His Phe Leu Ser Ile Leu Thr	Ile Asp Thr		
2180	2185	2190	
Ser Asp Ala Glu Asp Tyr Ser Cys Val Leu Val Glu Asp	Glu Asn Val		
2195	2200	2205	
Lys Thr Thr Ala Lys Leu Ile Val Glu Gly Ala Val Val	Glu Phe Val		
2210	2215	2220	
Lys Glu Leu Gln Asp Ile Glu Val Pro Glu Ser Tyr Ser	Gly Glu Leu		
2225	2230	2235	2240
Glu Cys Ile Val Ser Pro Glu Asn Ile Glu Gly Lys Trp	Tyr His Asn		
2245	2250	2255	
Asp Val Glu Leu Lys Ser Asn Gly Lys Tyr Thr Ile Thr	Ser Arg Arg		
2260	2265	2270	
Gly Arg Gln Asn Leu Thr Val Lys Asp Val Thr Lys Glu	Asp Gln Gly		
2275	2280	2285	
Glu Tyr Ser Phe Val Ile Asp Gly Lys Thr Thr Cys Lys	Leu Lys		
2290	2295	2300	
Met Lys Pro Arg Pro Ile Ala Ile Leu Gln Gly	Deu Ser Asp Gln	Lys	
2305	2310	2315	2320
Val Cys Glu Gly Asp Ile Val Gln Leu Glu Val Lys Val	Ser Leu Glu		
2325	2330	2335	
Ser Val Glu Gly Val Trp Met Lys Asp Gly Gln Glu Val	Gln Pro Ser		
2340	2345	2350	
Asp Arg Val His Ile Val Ile Asp Lys Gln Ser His Met	Leu Leu Ile		
2355	2360	2365	
Glu Asp Met Thr Lys Glu Asp Ala Gly Asn Tyr Ser Phe	Thr Ile Pro		
2370	2375	2380	
Ala Leu Gly Leu Ser Thr Ser Gly Arg Val Ser Val Tyr	Ser Val Asp		
2385	2390	2395	2400
Val Ile Thr Pro Leu Lys Asp Val Asn Val Ile Glu Gly	Thr Lys Ala		
2405	2410	2415	
Val Leu Glu Cys Lys Val Ser Val Pro Asp Val Thr Ser	Val Lys Trp		
2420	2425	2430	
Tyr Leu Asn Asp Glu Gln Ile Lys Pro Asp Asp Arg Val	Gln Ala Ile		
2435	2440	2445	
Val Lys Gly Thr Lys Gln Arg Leu Val Ile Asn Arg Thr	His Ala Ser		
2450	2455	2460	
Asp Glu Gly Pro Tyr Lys Leu Ile Val Gly Arg Val Glu	Thr Asn Cys		
2465	2470	2475	2480

Asn Leu Ser Val Glu Lys Ile Ile Arg Gly Leu Arg Asp Leu
 2485 2490 2495
 Thr Cys Thr Glu Thr Gln Asn Val Val Phe Glu Val Glu Leu Ser His
 2500 2505 2510
 Ser Gly Ile Asp Val Leu Trp Asn Phe Lys Asp Lys Glu Ile Lys Pro
 2515 2520 2525
 Ser Ser Lys Tyr Lys Ile Glu Ala His Gly Lys Ile Tyr Lys Leu Thr
 2530 2535 2540
 Val Leu Asn Met Met Lys Asp Asp Glu Gly Lys Tyr Thr Phe Tyr Ala
 2545 2550 2555 2560
 Gly Glu Asn Met Thr Ser Gly Lys Leu Thr Val Ala Gly Gly Ala Ile
 2565 2570 2575
 Ser Lys Pro Leu Thr Asp Gln Thr Val Ala Glu Ser Gln Glu Ala Val
 2580 2585 2590
 Phe Glu Cys Glu Val Ala Asn Pro Asp Ser Lys Gly Glu Trp Leu Arg
 2595 2600 2605
 Asp Gly Lys His Leu Pro Leu Thr Asn Asn Ile Arg Ser Glu Ser Asp
 2610 2615 2620
 Gly His Lys Arg Arg Leu Ile Ile Ala Ala Thr Lys Leu Asp Asp Ile
 2625 2630 2635 2640
 Gly Glu Tyr Thr Tyr Lys Val Ala Thr Ser Lys Thr Ser Ala Lys Leu
 2645 2650 2655
 Lys Val Glu Ala Val Lys Ile Lys Lys Thr Leu Lys Asn Leu Thr Val
 2660 2665 2670
 Thr Glu Thr Gln Asp Ala Val Phe Thr Val Glu Leu Thr His Pro Asn
 2675 2680 2685
 Val Lys Gly Val Gln Trp Ile Lys Asn Gly Val Val Leu Glu Ser Asn
 2690 2695 2700
 Glu Lys Tyr Ala Ile Ser Val Lys Gly Thr Ile Tyr Ser Leu Arg Ile
 2705 2710 2715 2720
 Lys Asn Cys Ala Ile Val Asp Glu Ser Val Tyr Gly Phe Arg Leu Gly
 2725 2730 2735
 Arg Leu Gly Ala Ser Ala Arg Leu His Val Glu Thr Val Lys Ile Ile
 2740 2745 2750
 Lys Lys Pro Lys Asp Val Thr Ala Leu Glu Asn Ala Thr Val Ala Phe
 2755 2760 2765
 Glu Val Ser Val Ser His Asp Thr Val Pro Val Lys Trp Phe His Lys
 2770 2775 2780
 Ser Val Glu Ile Lys Pro Ser Asp Lys His Arg Leu Val Ser Glu Arg
 2785 2790 2795 2800
 Lys Val His Lys Leu Met Leu Gln Asn Ile Ser Pro Ser Asp Ala Gly
 2805 2810 2815
 Glu Tyr Thr Ala Val Val Gly Gln Leu Glu Cys Lys Ala Lys Deu Phe
 2820 2825 2830
 Val Glu Thr Leu His Ile Thr Lys Thr Met Lys Asn Ile Glu Val Pro
 2835 2840 2845
 Glu Thr Lys Thr Ala Ser Phe Glu Cys Glu Val Ser His Phe Asn Val
 2850 2855 2860
 Pro Ser Met Trp Leu Lys Asn Gly Val Glu Ile Glu Met Ser Glu Lys
 2865 2870 2875 2880
 Phe Lys Ile Val Val Gln Gly Lys Leu His Gln Leu Ile Ile Met Asn
 2885 2890 2895
 Thr Ser Thr Glu Asp Ser Ala Glu Tyr Thr Phe Val Cys Gly Asn Asp
 2900 2905 2910
 Gln Val Ser Ala Thr Leu Thr Val Thr Pro Ile Met Ile Thr Ser Met
 2915 2920 2925
 Leu Lys Asp Ile Asn Ala Glu Glu Lys Asp Thr Ile Thr Phe Glu Val
 2930 2935 2940
 Thr Val Asn Tyr Glu Gly Ile Ser Tyr Lys Trp Leu Lys Asn Gly Val

2945	2950	2955	2960
Glu Ile Lys Ser Thr Asp Lys Cys Gln Met Arg Thr Lys Lys Leu Thr			
2965	2970		2975
His Ser Leu Asn Ile Arg Asn Val His Phe Gly Asp Ala Ala Asp Tyr			
2980	2985	2990	
Thr Phe Val Ala Gly Lys Ala Thr Ser Thr Ala Thr Leu Tyr Val Glu			
2995	3000	3005	
Ala Arg His Ile Glu Phe Arg Lys His Ile Lys Asp Ile Lys Val Leu			
3010	3015	3020	
Glu Lys Lys Arg Ala Met Phe Glu Cys Glu Val Ser Glu Pro Asp Ile			
3025	3030	3035	3040
Thr Val Gln Trp Met Lys Asp Asp Gln Glu Leu Gln Ile Thr Asp Arg			
3045	3050	3055	
Ile Lys Ile Gln Lys Glu Lys Tyr Val His Arg Leu Leu Ile Pro Ser			
3060	3065	3070	
Thr Arg Met Ser Asp Ala Gly Lys Tyr Thr Val Val Ala Gly Gly Asn			
3075	3080	3085	
Val Ser Thr Ala Lys Leu Phe Val Glu Gly Arg Asp Val Arg Ile Arg			
3090	3095	3100	
Ser Ile Lys Lys Glu Val Gln Val Ile Glu Lys Gln Arg Ala Val Val			
3105	3110	3115	3120
Glu Phe Glu Val Asn Glu Asp Asp Val Asp Ala His Trp Tyr Lys Asp			
3125	3130	3135	
Gly Ile Glu Ile Asn Phe Gln Val Gln Glu Arg His Lys Tyr Val Val			
3140	3145	3150	
Glu Arg Arg Ile His Arg Met Phe Ile Ser Glu Thr Arg Gln Ser Asp			
3155	3160	3165	
Ala Gly Glu Tyr Thr Phe Val Ala Gly Arg Asn Arg Ser Ser Val Thr			
3170	3175	3180	
Leu Tyr Val Asn Ala Pro Glu Pro Pro Gln Val Leu Gln Glu Leu Gln			
3185	3190	3195	3200
Pro Val Thr Val Gln Ser Gly Lys Pro Ala Arg Phe Cys Ala Met Ile			
3205	3210	3215	
Ser Gly Arg Pro Gln Pro Lys Ile Ser Trp Tyr Lys Glu Glu Gln Leu			
3220	3225	3230	
Leu Ser Thr Gly Phe Lys Cys Lys Phe Leu His Asp Gly Gln Glu Tyr			
3235	3240	3245	
Thr Leu Leu Leu Ile Glu Ala Phe Pro Glu Asp Ala Ala Val Tyr Thr			
3250	3255	3260	
Cys Glu Ala Lys Asn Asp Tyr Gly Val Ala Thr Thr Ser Ala Ser Leu			
3265	3270	3275	3280
Ser Val Glu Val Pro Glu Val Val Ser Pro Asp Gln Glu Met Pro Val			
3285	3290	3295	
Tyr Pro Pro Ala Ile Ile Thr Pro Leu Gln Asp Thr Val Thr Ser Glu			
3300	3305	3310	
Gly Gln Pro Ala Arg Phe Gln Cys Arg Val Ser Gly Thr Asp Leu Lys			
3315	3320	3325	
Val Ser Trp Tyr Ser Lys Asp Lys Lys Ile Lys Pro Ser Arg Phe Phe			
3330	3335	3340	
Arg Met Thr Gln Phe Glu Asp Thr Tyr Gln Leu Glu Ile Ala Glu Ala			
3345	3350	3355	3360
Tyr Pro Glu Asp Glu Gly Thr Tyr Thr Phe Val Ala Asn Ala Val			
3365	3370	3375	
Gly Gln Val Ser Ser Thr Ala Asn Leu Ser Leu Glu Ala Pro Glu Ser			
3380	3385	3390	
Ile Leu His Glu Arg Ile Glu Gln Glu Ile Glu Met Glu Met Lys Glu			
3395	3400	3405	
Phe Ser Ser Ser Phe Leu Ser Ala Glu Glu Gly Leu His Ser Ala			
3410	3415	3420	

Glu Leu Gln Leu Ser Lys Ile Asn Glu Thr Leu Glu Leu Leu Ser Glu 3440
 3425 3430 3435
 Ser Pro Val Tyr Pro Thr Lys Phe Asp Ser Glu Lys Glu Gly Thr Gly 3455
 3445 3450 3455
 Pro Ile Phe Ile Lys Glu Val Ser Asn Ala Asp Ile Ser Met Gly Asp 3470
 3460 3465 3470
 Val Ala Thr Leu Ser Val Thr Val Ile Gly Ile Pro Lys Pro Lys Ile 3485
 3475 3480 3485
 Gln Trp Phe Phe Asn Gly Val Leu Leu Thr Pro Ser Ala Asp Tyr Lys 3500
 3490 3495 3500
 Phe Val Phe Asp Gly Asp Asp His Ser Leu Ile Ile Leu Phe Thr Lys 3520
 3505 3510 3515
 Leu Glu Asp Glu Gly Glu Tyr Thr Cys Met Ala Ser Asn Asp Tyr Gly 3535
 3525 3530 3535
 Lys Thr Ile Cys Ser Ala Tyr Leu Lys Ile Asn Ser Lys Gly Glu Gly 3550
 3540 3545 3550
 His Lys Asp Thr Glu Thr Glu Ser Ala Val Ala Lys Ser Leu Glu Lys 3565
 3555 3560 3565
 Leu Gly Gly Pro Cys Pro Pro His Phe Leu Lys Glu Leu Lys Pro Ile 3580
 3570 3575 3580
 Arg Cys Ala Gln Gly Leu Pro Ala Ile Phe Glu Tyr Thr Val Val Gly 3600
 3585 3590 3595
 Glu Pro Ala Pro Thr Val Thr Trp Phe Lys Glu Asn Lys Gln Leu Cys 3615
 3605 3610 3615
 Thr Ser Val Tyr Tyr Thr Ile Ile His Asn Pro Asn Gly Ser Gly Thr 3630
 3620 3625 3630
 Phe Ile Val Asn Asp Pro Gln Arg Glu Asp Ser Gly Leu Tyr Ile Cys 3645
 3635 3640 3645
 Lys Ala Glu Asn Met Leu Gly Glu Ser Thr Cys Ala Ala Glu Leu Leu 3660
 3650 3655 3660
 Val Leu Leu Glu Asp Thr Asp Met Thr Asp Thr Pro Cys Lys Ala Lys 3680
 3665 3670 3675
 Ser Thr Pro Glu Ala Pro Glu Asp Phe Pro Gln Thr Pro Leu Lys Gly 3695
 3685 3690 3695
 Pro Ala Val Glu Ala Leu Asp Ser Glu Gln Glu Ile Ala Thr Phe Val 3710
 3700 3705 3710
 Lys Asp Thr Ile Leu Lys Ala Ala Leu Ile Thr Glu Glu Asn Gln Gln 3725
 3715 3720 3725
 Leu Ser Tyr Glu His Ile Ala Lys Ala Asn Glu Leu Ser Ser Gln Leu 3740
 3730 3735 3740
 Pro Leu Gly Ala Gln Glu Leu Gln Ser Ile Leu Glu Gln Asp Lys Leu 3760
 3745 3750 3755
 Thr Pro Glu Ser Thr Arg Glu Phe Leu Cys Ile Asn Gly Ser Ile His 3775
 3765 3770 3775
 Phe Gln Pro Leu Lys Glu Pro Ser Pro Asn Leu Gln Leu Gln Ile Val 3790
 3780 3785 3790
 Gln Ser Gln Lys Thr Phe Ser Lys Glu Gly Ile Leu Met Pro Glu Glu 3805
 3795 3800 3805
 Pro Glu Thr Gln Ala Val Leu Ser Asp Thr Glu Lys Ile Phe Pro Ser 3820
 3810 3815 3820
 Ala Met Ser Ile Glu Gln Ile Asn Ser Leu Thr Val Glu Pro Leu Lys 3840
 3825 3830 3835
 Thr Leu Leu Ala Glu Pro Glu Gly Asn Tyr Pro Gln Ser Ser Ile Glu 3855
 3845 3850 3855
 Pro Pro Met His Ser Tyr Leu Thr Ser Val Ala Glu Glu Val Leu Ser 3870
 3860 3865 3870
 Leu Lys Glu Lys Thr Val Ser Asp Thr Asn Arg Glu Gln Arg Val Thr 3885
 3875 3880 3885
 Leu Gln Lys Gln Glu Ala Gln Ser Ala Leu Ile Leu Ser Gln Ser Leu

3890	3895	3900	
Ala Glu Gly His Val Glu Ser Leu Gln Ser	Pro Asp Val Met Ile Ser		
3905	3910	3915	
Gln Val Asn Tyr Glu Pro Leu Val Pro Ser	Glu His Ser Cys Thr	Glu	
3925	3930	3935	
Gly Gly Lys Ile Leu Ile Glu Ser Ala Asn Pro	Leu Glu Asn Ala Gly		
3940	3945	3950	
Gln Asp Ser Ala Val Arg Ile Glu Gly Lys Ser	Leu Arg Phe Pro		
3955	3960	3965	
Leu Ala Leu Glu Glu Lys Gln Val Leu Leu Lys	Glu Glu His Ser Asp		
3970	3975	3980	
Asn Val Val Met Pro Pro Asp Gln Ile Ile Glu	Ser Lys Arg Glu Pro		
3985	3990	3995	4000
Val Ala Ile Lys Lys Val Gln Glu Val Gln Gly	Arg Asp Leu Leu Ser		
4005	4010	4015	
Lys Glu Ser Leu Leu Ser Gly Ile Pro Glu Glu Gln	Arg Leu Asn Leu		
4020	4025	4030	
Lys Ile Gln Ile Cys Arg Ala Leu Gln Ala Ala	Val Ala Ser Glu Gln		
4035	4040	4045	
Pro Gly Leu Phe Ser Glu Trp Leu Arg Asn Ile	Glu Lys Val Glu Val		
4050	4055	4060	
Glu Ala Val Asn Ile Thr Gln Glu Pro Arg His	Ile Met Cys Met Tyr		
4065	4070	4075	4080
Leu Val Thr Ser Ala Lys Ser Val Thr Glu Glu Val	Thr Ile Ile Ile		
4085	4090	4095	
Glu Asp Val Asp Pro Gln Met Ala Asn Leu Lys	Met Glu Leu Arg Asp		
4100	4105	4110	
Ala Leu Cys Ala Ile Ile Tyr Glu Glu Ile Asp Ile	Leu Thr Ala Glu		
4115	4120	4125	
Gly Pro Arg Ile Gln Gln Gly Ala Lys Thr Ser	Leu Gln Glu Glu Met		
4130	4135	4140	
Asp Ser Phe Ser Gly Ser Gln Lys Val Glu Pro Ile	Thr Glu Pro Glu		
4145	4150	4155	4160
Val Glu Ser Lys Tyr Leu Ile Ser Thr Glu Glu Val	Ser Tyr Phe Asn		
4165	4170	4175	
Val Gln Ser Arg Val Lys Tyr Leu Asp Ala Thr Pro	Val Thr Lys Gly		
4180	4185	4190	
Val Ala Ser Ala Val Val Ser Asp Glu Lys Gln	Asp Glu Ser Leu Lys		
4195	4200	4205	
Pro Ser Glu Glu Lys Glu Glu Ser Ser Ser Glu	Ser Gly Thr Glu Glu		
4210	4215	4220	
Val Ala Thr Val Lys Ile Gln Glu Ala Glu Gly	Gly Leu Ile Lys Glu		
4225	4230	4235	4240
Asp Gly Pro Met Ile His Thr Pro Leu Val Asp Thr	Val Ser Glu Glu		
4245	4250	4255	
Gly Asp Ile Val His Leu Thr Thr Ser Ile Thr Asn	Ala Lys Glu Val		
4260	4265	4270	
Asn Trp Tyr Phe Glu Asn Lys Leu Val Pro Ser	Asp Glu Lys Phe Lys		
4275	4280	4285	
Cys Leu Gln Asp Gln Asn Thr Tyr Thr Leu Val	Ile Asp Lys Val Asn		
4290	4295	4300	
Thr Glu Asp His Gln Gly Glu Tyr Val Cys Glu	Ala Leu Asn Asp Ser		
4305	4310	4315	4320
Gly Lys Thr Ala Thr Ser Ala Lys Leu Thr Val	Val Lys Arg Ala Ala		
4325	4330	4335	
Pro Val Ile Lys Arg Lys Ile Glu Pro Leu Glu Val	Ala Leu Gly His		
4340	4345	4350	
Leu Ala Lys Phe Thr Cys Glu Ile Gln Ser Ala Pro	Asn Val Arg Rhe		
4355	4360	4365	

Gln Trp Phe Lys Ala Gly Arg Glu Ile Tyr Glu Ser Asp Lys Cys Ser
 4370 4375 4380
 Ile Arg Ser Ser Lys Tyr Ile Ser Ser Leu Glu Ile Leu Arg Thr Gln
 4385 4390 4395 4400
 Val Val Asp Cys Gly Glu Tyr Thr Cys Lys Ala Ser Asn Glu Tyr Gly
 4405 4410 4415
 Ser Val Ser Cys Thr Ala Thr Leu Thr Val Thr Val Pro Gly Gly Glu
 4420 4425 4430
 Lys Lys Val Arg Lys Leu Leu Pro Glu Arg Lys Pro Glu Pro Lys Glu
 4435 4440 4445
 Glu Val Val Leu Lys Ser Val Leu Arg Lys Arg Pro Glu Glu Glu
 4450 4455 4460
 Pro Lys Val Glu Pro Lys Lys Leu Glu Lys Val Lys Lys Pro Ala Val
 4465 4470 4475 4480
 Pro Glu Pro Pro Pro Lys Pro Val Glu Glu Val Glu Val Pro Thr
 4485 4490 4495
 Val Thr Lys Arg Glu Arg Lys Ile Pro Glu Pro Thr Lys Val Pro Glu
 4500 4505 4510
 Ile Lys Pro Ala Ile Pro Leu Pro Ala Pro Glu Pro Lys Pro Lys Pro
 4515 4520 4525
 Glu Ala Glu Val Lys Thr Ile Lys Pro Pro Pro Val Glu Pro Glu Pro
 4530 4535 4540
 Thr Pro Ile Ala Ala Pro Val Thr Val Pro Val Val Gly Lys Lys Ala
 4545 4550 4555 4560
 Glu Ala Lys Ala Pro Lys Glu Glu Ala Ala Lys Pro Lys Gly Pro Ile
 4565 4570 4575
 Lys Gly Val Pro Lys Lys Thr Pro Ser Pro Ile Glu Ala Glu Arg Arg
 4580 4585 4590
 Lys Leu Arg Pro Gly Ser Gly Gly Glu Lys Pro Pro Asp Glu Ala Pro
 4595 4600 4605
 Phe Thr Tyr Gln Leu Lys Ala Val Pro Leu Lys Phe Val Lys Glu Ile
 4610 4615 4620
 Lys Asp Ile Ile Leu Thr Glu Ser Glu Phe Val Gly Ser Ser Ala Ile
 4625 4630 4635 4640
 Phe Glu Cys Leu Val Ser Pro Ser Thr Ala Ile Thr Thr Trp Met Lys
 4645 4650 4655
 Asp Gly Ser Asn Ile Arg Glu Ser Pro Lys His Arg Phe Ile Ala Asp
 4660 4665 4670
 Gly Lys Asp Arg Lys Leu His Ile Ile Asp Val Gln Leu Ser Asp Ala
 4675 4680 4685
 Gly Glu Tyr Thr Cys Val Leu Arg Leu Gly Asn Lys Glu Lys Thr Ser
 4690 4695 4700
 Thr Ala Lys Leu Val Val Glu Glu Leu Pro Val Arg Phe Val Lys Thr
 4705 4710 4715 4720
 Leu Glu Glu Val Thr Val Val Lys Gly Gln Pro Leu Tyr Leu Ser
 4725 4730 4735
 Cys Glu Leu Asn Lys Glu Arg Asp Val Val Trp Arg Lys Asp Gly Lys
 4740 4745 4750
 Ile Val Val Glu Lys Pro Gly Arg Ile Val Pro Gly Val Ile Gly Leu
 4755 4760 4765
 Met Arg Ala Leu Thr Ile Asn Asp Ala Asp Asp Thr Asp Ala Gly Thr
 4770 4775 4780
 Tyr Thr Val Thr Val Glu Asn Ala Asn Asn Leu Glu Cys Ser Ser Cys
 4785 4790 4795 4800
 Val Lys Val Val Glu Val Ile Arg Asp Trp Leu Val Lys Pro Ile Arg
 4805 4810 4815
 Asp Gln His Val Lys Pro Lys Gly Thr Ala Ile Phe Ala Cys Asp Ile
 4820 4825 4830
 Ala Lys Asp Thr Pro Asn Ile Lys Trp Phe Lys Gly Tyr Asp Glu Ile

4835	4840	4845	
Pro Ala Glu Pro Asn Asp Lys Thr Glu Ile Leu Arg Asp Gly Asn His			
4850	4855	4860	
Leu Tyr Leu Lys Ile Lys Asn Ala Met Pro Glu Asp Ile Ala Glu Tyr			
4865	4870	4875	4880
Ala Val Glu Ile Glu Gly Lys Arg Tyr Pro Ala Lys Leu Thr Leu Gly			
4885	4890	4895	
Glu Arg Glu Val Glu Leu Leu Lys Pro Ile Glu Asp Val Thr Ile Tyr			
4900	4905	4910	
Glu Lys Glu Ser Ala Ser Phe Asp Ala Glu Ile Ser Glu Ala Asp Ile			
4915	4920	4925	
Pro Gly Gln Trp Lys Leu Lys Gly Glu Leu Leu Arg Pro Ser Pro Thr			
4930	4935	4940	
Cys Glu Ile Lys Ala Glu Gly Gly Lys Arg Phe Leu Thr Leu His Lys			
4945	4950	4955	4960
Val Lys Leu Asp Gln Ala Gly Glu Val Leu Tyr Gln Ala Leu Asn Ala			
4965	4970	4975	
Ile Thr Thr Ala Ile Leu Thr Val Lys Glu Ile Glu Leu Asp Phe Ala			
4980	4985	4990	
Val Pro Leu Lys Asp Val Thr Val Pro Glu Arg Arg Gln Ala Arg Phe			
4995	5000	5005	
Glu Cys Val Leu Thr Arg Glu Ala Asn Val Ile Trp Ser Lys Gly Pro			
5010	5015	5020	
Asp Ile Ile Lys Ser Ser Asp Lys Phe Asp Ile Ile Ala Asp Gly Lys			
5025	5030	5035	5040
Lys His Ile Leu Val Ile Asn Asp Ser Gln Phe Asp Asp Glu Gly Val			
5045	5050	5055	
Tyr Thr Ala Glu Val Glu Gly Lys Lys Thr Ser Ala Arg Leu Phe Val			
5060	5065	5070	
Thr Gly Ile Arg Leu Lys Phe Met Ser Pro Leu Glu Asp Gln Thr Val			
5075	5080	5085	
Lys Glu Gly Glu Thr Ala Thr Phe Val Cys Glu Leu Ser His Glu Lys			
5090	5095	5100	
Met His Val Val Trp Phe Lys Asn Asp Ala Lys Leu His Thr Ser Arg			
5105	5110	5115	5120
Thr Val Leu Ile Ser Ser Glu Gly Lys Thr His Lys Leu Glu Met Lys			
5125	5130	5135	
Glu Val Thr Leu Asp Asp Ile Ser Gln Ile Lys Ala Gln Val Lys Glu			
5140	5145	5150	
Leu Ser Ser Thr Ala Gln Leu Lys Val Leu Glu Ala Asp Pro Tyr Phe			
5155	5160	5165	
Thr Val Lys Leu His Asp Lys Thr Ala Val Glu Lys Asp Glu Ile Thr			
5170	5175	5180	
Leu Lys Cys Glu Val Ser Lys Asp Val Pro Val Lys Trp Phe Lys Asp			
5185	5190	5195	5200
Gly Glu Glu Ile Val Pro Ser Pro Lys Tyr Ser Ile Lys Ala Asp Gly			
5205	5210	5215	
Leu Arg Arg Ile Leu Lys Ile Lys Lys Ala Asp Leu Lys Asp Lys Gly			
5220	5225	5230	
Glu Tyr Val Cys Asp Cys Gly Thr Asp Lys Thr Lys Ala Asn Val Thr			
5235	5240	5245	
Val Glu Ala Arg Leu Ile Glu Val Glu Lys Pro Leu Tyr Gly Val Glu			
5250	5255	5260	
Val Phe Val Gly Glu Thr Ala His Phe Glu Ile Glu Leu Ser Glu Pro			
5265	5270	5275	5280
Asp Val His Gly Gln Trp Lys Leu Lys Gly Gln Pro Leu Thr Ala Ser			
5285	5290	5295	
Pro Asp Cys Glu Ile Ile Glu Asp Gly Lys Lys His Ile Leu Ile Leu			
5300	5305	5310	

His Asn Cys Gln Leu Gly Met Thr Gly Glu Val Ser Phe Gln Ala Ala
 5315 5320 5325
 Asn Ala Lys Ser Ala Ala Asn Leu Lys Val Lys Glu Leu Pro Leu Ile
 5330 5335 5340
 Phe Ile Thr Pro Leu Ser Asp Val Lys Val Phe Glu Lys Asp Glu Ala
 5345 5350 5355 5360
 Lys Phe Glu Cys Glu Val Ser Arg Glu Pro Lys Thr Phe Arg Trp Leu
 5365 5370 5375
 Lys Gly Thr Gln Glu Ile Thr Gly Asp Asp Arg Phe Glu Leu Ile Lys
 5380 5385 5390
 Asp Gly Thr Lys His Ser Met Val Ile Lys Ser Ala Ala Phe Glu Asp
 5395 5400 5405
 Glu Ala Lys Tyr Met Phe Glu Ala Glu Asp Lys His Thr Ser Gly Lys
 5410 5415 5420
 Leu Ile Ile Glu Gly Ile Arg Leu Lys Phe Leu Thr Pro Leu Lys Asp
 5425 5430 5435 5440
 Val Thr Ala Lys Glu Lys Glu Ser Ala Val Phe Thr Val Glu Leu Ser
 5445 5450 5455
 His Asp Asn Ile Arg Val Lys Trp Phe Lys Asn Asp Gln Arg Leu His
 5460 5465 5470
 Thr Thr Arg Ser Val Ser Met Gln Asp Glu Gly Lys Thr His Ser Ile
 5475 5480 5485
 Thr Phe Lys Asp Leu Ser Ile Asp Asp Thr Ser Gln Ile Arg Val Glu
 5490 5495 5500
 Ala Met Gly Met Ser Ser Glu Ala Lys Leu Thr Val Leu Glu Gly Asp
 5505 5510 5515 5520
 Pro Tyr Phe Thr Gly Lys Leu Gln Asp Tyr Thr Gly Val Glu Lys Asp
 5525 5530 5535
 Glu Val Ile Leu Gln Cys Glu Ile Ser Lys Ala Asp Ala Pro Val Lys
 5540 5545 5550
 Trp Phe Lys Asp Gly Lys Glu Ile Lys Pro Ser Lys Asn Ala Val Ile
 5555 5560 5565
 Lys Thr Asp Gly Lys Lys Arg Met Leu Ile Leu Lys Lys Ala Leu Lys
 5570 5575 5580
 Ser Asp Ile Gly Gln Tyr Thr Cys Asp Cys Gly Thr Asp Lys Thr Ser
 5585 5590 5595 5600
 Gly Lys Leu Asp Ile Glu Asp Arg Glu Ile Lys Leu Val Arg Pro Leu
 5605 5610 5615
 His Ser Val Glu Val Met Glu Thr Glu Thr Ala Arg Phe Glu Thr Glu
 5620 5625 5630
 Ile Ser Glu Asp Asp Ile His Ala Asn Trp Lys Leu Lys Gly Glu Ala
 5635 5640 5645
 Leu Leu Gln Thr Pro Asp Cys Glu Ile Lys Glu Glu Gly Lys Ile His
 5650 5655 5660
 Ser Leu Val Leu His Asn Cys Arg Leu Asp Gln Thr Gly Gly Val Asp
 5665 5670 5675 5680
 Phe Gln Ala Ala Asn Val Lys Ser Ser Ala His Leu Arg Val Lys Pro
 5685 5690 5695
 Arg Val Ile Gly Leu Leu Arg Pro Leu Lys Asp Val Thr Val Thr Ala
 5700 5705 5710
 Gly Glu Thr Ala Thr Phe Asp Cys Glu Leu Ser Tyr Glu Asp Ile Pro
 5715 5720 5725
 Val Glu Trp Tyr Leu Lys Gly Lys Lys Leu Glu Pro Ser Asp Lys Val
 5730 5735 5740
 Val Pro Arg Ser Glu Gly Lys Val His Thr Leu Thr Leu Arg Asp Val
 5745 5750 5755 5760
 Lys Leu Glu Asp Ala Gly Glu Val Gln Leu Thr Ala Lys Asp Phe Lys
 5765 5770 5775
 Thr His Ala Asn Leu Phe Val Lys Glu Pro Pro Val Glu Phe Thr Lys

5780	5785	5790
Pro Leu Glu Asp Gln Thr Val Glu	Glu'Gly Ala Thr Ala Val	Leu Glu
5795 5800	5805	
Cys Glu Val Ser Arg Glu Asn Ala Lys Val Lys Trp	Phe Lys Asn Gly	
5810 5815	5820	
Thr Glu Ile Leu Lys Ser Lys Tyr Glu Ile Val Ala Asp Gly Arg		
5825 5830	5835	5840
Val Arg Lys Leu Val Ile His Asp Cys Thr Pro Glu Asp Ile Lys Thr		
5845 5850	5855	
Tyr Thr Cys Asp Ala Lys Asp Phe Lys Thr Ser Cys Asn Leu Asn Val		
5860 5865	5870	
Val Pro Pro His Val Glu Phe Leu Arg Pro Leu Thr Asp Leu Gln Val		
5875 5880	5885	
Arg Glu Lys Glu Met Ala Arg Phe Glu Cys Glu Leu Ser Arg Glu Asn		
5890 5895	5900	
Ala Lys Val Lys Trp Phe Lys Asp Gly Ala Glu Ile Lys Lys Gly Lys		
5905 5910	5915	5920
Lys Tyr Asp Ile Ile Ser Lys Gly Ala Val Arg Ile Leu Val Ile Asn		
5925 5930	5935	
Lys Cys Leu Leu Asp Asp Glu Ala Glu Tyr Ser Cys Glu Val Arg Thr		
5940 5945	5950	
Ala Arg Thr Ser Gly Met Leu Thr Val Leu Glu Glu Ala Val Phe		
5955 5960	5965	
Thr Lys Asn Leu Ala Asn Ile Glu Val Ser Glu Thr Asp Thr Ile Lys		
5970 5975	5980	
Leu Val Cys Glu Val Ser Lys Pro Gly Ala Glu Val Ile Trp Tyr Lys		
5985 5990	5995	6000
Gly Asp Glu Glu Ile Ile Glu Thr Gly Arg Tyr Glu Ile Leu Thr Glu		
6005 6010	6015	
Gly Arg Lys Arg Ile Leu Val Ile Gln Asn Ala His Leu Glu Asp Ala		
6020 6025	6030	
Gly Asn Tyr Asn Cys Arg Leu Pro Ser Ser Arg Thr Asp Gly Lys Val		
6035 6040	6045	
Lys Val His Glu Leu Ala Ala Glu Phe Ile Ser Lys Pro Gln Asn Leu		
6050 6055	6060	
Glu Ile Leu Glu Gly Glu Lys Ala Glu Phe Val Cys Ser Ile Ser Lys		
6065 6070	6075	6080
Glu Ser Phe Pro Val Gln Trp Lys Arg Asp Asp Lys Thr Leu Glu Ser		
6085 6090	6095	
Gly Asp Lys Tyr Asp Val Ile Ala Asp Gly Lys Lys Arg Val Leu Val		
6100 6105	6110	
Val Lys Asp Ala Thr Leu Gln Asp Met Gly Thr Tyr Val Val Met Val		
6115 6120	6125	
Gly Ala Ala Arg Ala Ala His Leu Thr Val Ile Glu Lys Leu Arg		
6130 6135	6140	
Ile Val Val Pro Leu Lys Asp Thr Arg Val Lys Glu Gln Gln Glu Val		
6145 6150	6155	6160
Val Phe Asn Cys Glu Val Asn Thr Glu Gly Ala Lys Ala Lys Trp Phe		
6165 6170	6175	
Arg Asn Glu Glu Ala Ile Phe Asp Ser Ser Lys Tyr Ile Ile Leu Gln		
6180 6185	6190	
Lys Asp Leu Val Tyr Thr Leu Arg Ile Arg Asp Ala His Leu Asp Asp		
6195 6200	6205	
Gln Ala Asn Tyr Asn Val Ser Leu Thr Asn His Arg Gly Glu Asn Val		
6210 6215	6220	
Lys Ser Ala Ala Asn Leu Ile Val Glu Glu Glu Asp Leu Arg Ile Val		
6225 6230	6235	6240
Glu Pro Leu Lys Asp Ile Glu Thr Met Glu Lys Lys Ser Val Thr Phe		
6245 6250	6255	

Trp Cys Lys Val Asn Arg Leu Asn Val Thr Leu Lys Trp Thr Lys Asn
 6260 6265 6270
 Gly Glu Val Pro Phe Asp Asn Arg Val Ser Tyr Arg Val Asp Lys
 6275 6280 6285
 Tyr Lys His Met Leu Thr Ile Lys Asp Cys Gly Phe Pro Asp Glu Gly
 6290 6295 6300
 Glu Tyr Ile Val Thr Ala Gly Gln Asp Lys Ser Val Ala Glu Leu Leu
 6305 6310 6315 6320
 Ile Ile Glu Ala Pro Thr Glu Phe Val Glu His Leu Glu Asp Gln Thr
 6325 6330 6335
 Val Thr Glu Phe Asp Asp Ala Val Phe Ser Cys Gln Leu Ser Arg Glu
 6340 6345 6350
 Lys Ala Asn Val Lys Trp Tyr Arg Asn Gly Arg Glu Ile Lys Glu Gly
 6355 6360 6365
 Lys Lys Tyr Lys Phe Glu Lys Asp Gly Ser Ile His Arg Leu Ile Ile
 6370 6375 6380
 Lys Asp Cys Arg Leu Asp Asp Glu Cys Glu Tyr Ala Cys Gly Val Glu
 6385 6390 6395 6400
 Asp Arg Lys Ser Arg Ala Arg Leu Phe Val Glu Glu Ile Pro Val Glu
 6405 6410 6415
 Ile Ile Arg Pro Pro Gln Asp Ile Leu Glu Ala Pro Gly Ala Asp Val
 6420 6425 6430
 Val Phe Leu Ala Glu Leu Asn Lys Asp Lys Val Glu Val Gln Trp Leu
 6435 6440 6445
 Arg Asn Asn Met Val Val Val Gln Gly Asp Lys His Gln Met Met Ser
 6450 6455 6460
 Glu Gly Lys Ile His Arg Leu Gln Ile Cys Asp Ile Lys Pro Arg Asp
 6465 6470 6475 6480
 Gln Gly Glu Tyr Arg Phe Ile Ala Lys Asp Lys Glu Ala Arg Ala Lys
 6485 6490 6495
 Leu Glu Leu Ala Ala Ala Pro Lys Ile Lys Thr Ala Asp Gln Asp Leu
 6500 6505 6510
 Val Val Asp Val Gly Lys Pro Leu Thr Met Val Val Pro Tyr Asp Ala
 6515 6520 6525
 Tyr Pro Lys Ala Glu Ala Glu Trp Phe Dls Glu Asn Glu Pro Leu Ser
 6530 6535 6540
 Thr Lys Thr Ile Asp Thr Thr Ala Glu Gln Thr Ser Phe Arg Ile Leu
 6545 6550 6555 6560
 Glu Ala Lys Lys Gly Asp Lys Gly Arg Tyr Lys Ile Val Leu Gln Asn
 6565 6570 6575
 Lys His Gly Lys Ala Glu Gly Phe Ile Asn Leu Lys Val Ile Asp Val
 6580 6585 6590
 Pro Gly Pro Val Arg Asn Leu Glu Val Thr Glu Thr Phe Asp Gly Glu
 6595 6600 6605
 Val Ser Leu Ala Trp Glu Glu Pro Leu Thr Asp Gly Gly Ser Lys Ile
 6610 6615 6620
 Ile Gly Tyr Val Val Glu Arg Arg Asp Ile Lys Arg Lys Thr Trp Val
 6625 6630 6635 6640
 Leu Ala Thr Asp Arg Ala Glu Ser Cys Glu Phe Thr Val Thr Gly Leu
 6645 6650 6655
 Gln Lys Gly Gly Val Glu Tyr Leu Phe Arg Val Ser Ala Arg Asn Arg
 6660 6665 6670
 Val Gly Thr Gly Glu Pro Val Glu Thr Asp Asn Pro Val Glu Ala Arg
 6675 6680 6685
 Ser Lys Tyr Asp Val Pro Gly Pro Pro Leu Asn Val Thr Ile Thr Asp
 6690 6695 6700
 Val Asn Arg Phe Gly Val Ser Leu Thr Trp Glu Pro Pro Glu Tyr Asp
 6705 6710 6715 6720
 Gly Gly Ala Glu Ile Thr Asn Tyr Val Ile Glu Leu Arg Asp Lys Thr

6725	6730	6735
Ser Ile Arg Trp Asp Thr Ala Met Thr Val Arg Ala Glu Asp Leu Ser		
6740	6745	6750
Ala Thr Val Thr Asp Val Val Glu Gly Gln Glu Tyr Ser Phe Arg Val		
6755	6760	6765
Arg Ala Gln Asn Arg Ile Gly Val Gly Lys Pro Ser Ala Ala Thr Pro		
6770	6775	6780
Phe Val Lys Val Ala Asp Pro Ile Glu Arg Pro Ser Pro Pro Val Asn		
6785	6790	6795
Leu Thr Ser Ser Asp Gln Thr Gln Ser Ser Val Gln Leu Lys Trp Glu		
6805	6810	6815
Pro Pro Leu Lys Asp Gly Gly Ser Pro Ile Leu Gly Tyr Ile Ile Glu		
6820	6825	6830
Arg Cys Glu Glu Gly Lys Asp Asn Trp Ile Arg Cys Asn Met Lys Leu		
6835	6840	6845
Val Pro Glu Leu Thr Tyr Lys Val Thr Gly Leu Glu Lys Gly Asn Lys		
6850	6855	6860
Tyr Leu Tyr Arg Val Ser Ala Glu Asn Lys Ala Gly Val Ser Asp Pro		
6865	6870	6875
Ser Glu Ile Leu Gly Pro Leu Thr Ala Asp Asp Ala Phe Val Glu Pro		
6885	6890	6895
Thr Met Asp Leu Ser Ala Phe Lys Asp Gly Leu Glu Val Ile Val Pro		
6900	6905	6910
Asn Pro Ile Thr Ile Leu Val Pro Ser Thr Gly Tyr Pro Arg Pro Thr		
6915	6920	6925
Ala Thr Trp Cys Phe Gly Asp Lys Val Leu Glu Thr Gly Asp Arg Val		
6930	6935	6940
Lys Met Lys Thr Leu Ser Ala Tyr Ala Glu Leu Val Ile Ser Pro Ser		
6945	6950	6955
Glu Arg Ser Asp Lys Gly Ile Tyr Thr Leu Lys Leu Glu Asn Arg Val		
6965	6970	6975
Lys Thr Ile Ser Gly Glu Ile Asp Val Asn Val Ile Ala Arg Pro Ser		
6980	6985	6990
Ala Pro Lys Glu Leu Lys Phe Gly Asp Ile Thr Lys Asp Ser Val His		
6995	7000	7005
Leu Thr Trp Glu Pro Pro Asp Asp Gly Ser Pro Leu Thr Gly		
7010	7015	7020
Tyr Val Val Glu Lys Arg Glu Val Ser Arg Lys Thr Trp Thr Lys Val		
7025	7030	7035
Met Asp Phe Val Thr Asp Leu Glu Phe Thr Val Pro Asp Leu Val Gln		
7045	7050	7055
Gly Lys Glu Tyr Leu Phe Lys Val Cys Ala Arg Asn Lys Cys Gly Pro		
7060	7065	7070
Gly Glu Pro Ala Tyr Val Asp Glu Pro Val Asn Met Ser Thr Pro Ala		
7075	7080	7085
Thr Val Pro Asp Pro Pro Glu Asn Val Lys Trp Arg Asp Arg Thr Ala		
7090	7095	7100
Asn Ser Ile Phe Leu Thr Trp Asp Pro Pro Lys Asn Asp Gly Gly Ser		
7105	7110	7115
Arg Ile Lys Gly Tyr Ile Val Glu Arg Cys Pro Arg Gly Ser Asp Lys		
7125	7130	7135
Trp Val Ala Cys Gly Glu Pro Val Ala Glu Thr Lys Met Glu Val Thr		
7140	7145	7150
Gly Leu Glu Glu Gly Lys Trp Tyr Ala Tyr Arg Val Lys Thr Leu Asn		
7155	7160	7165
Arg Gln Gly Ala Ser Lys Pro Ser Arg Pro Thr Glu Glu Ile Gln Ala		
7170	7175	7180
Val Asp Thr Gln Glu Ala Pro Glu Ile Phe Leu Asp Val Lys Leu Leu		
7185	7190	7195
		7200

Ala Gly Leu Thr Val Lys Ala Gly Thr Lys Ile Glu Leu Pro Ala Thr
7205 7210 7215
Val Thr Gly Lys Pro Glu Pro Lys Ile Thr Trp Thr Lys Ala Asp Met
7220 7225 7230
Ile Leu Lys Gln Asp Lys Arg Ile Thr Ile Glu Asn Val Pro Lys Lys
7235 7240 7245
Ser Thr Val Thr Ile Val Asp Ser Lys Arg Ser Asp Thr Gly Thr Tyr
7250 7255 7260
Ile Ile Glu Ala Val Asn Val Cys Gly Arg Ala Thr Ala Val Val Glu
7265 7270 7275 7280
Val Asn Val Leu Asp Lys Pro Gly Pro Pro Ala Ala Phe Asp Ile Thr
7285 7290 7295
Asp Val Thr Asn Glu Ser Cys Leu Leu Thr Trp Asn Pro Pro Arg Asp
7300 7305 7310
Asp Gly Gly Ser Lys Ile Thr Asn Tyr Val Val Glu Arg Arg Ala Thr
7315 7320 7325
Asp Ser Glu Val Trp His Lys Leu Ser Ser Thr Val Lys Asp Thr Asn
7330 7335 7340
Phe Lys Ala Thr Lys Leu Ile Pro Asn Lys Glu Tyr Ile Phe Arg Val
7345 7350 7355 7360
Ala Ala Glu Asn Met Tyr Gly Ala Gly Glu Pro Val Gln Ala Ser Pro
7365 7370 7375
Ile Thr Ala Lys Tyr Gln Phe Asp Pro Pro Gly Pro Pro Thr Arg Leu
7380 7385 7390
Glu Pro Ser Asp Ile Thr Lys Asp Ala Val Thr Leu Thr Trp Cys Glu
7395 7400 7405
Pro Asp Asp Asp Gly Gly Ser Pro Ile Thr Gly Tyr Trp Val Glu Arg
7410 7415 7420
Leu Asp Pro Asp Thr Asp Lys Trp Val Arg Cys Asn Lys Met Pro Val
7425 7430 7435 7440
Lys Asp Thr Thr Tyr Arg Val Lys Gly Leu Thr Asn Lys Lys Tyr
7445 7450 7455
Arg Phe Arg Val Leu Ala Glu Asn Leu Ala Gly Pro Gly Lys Pro Ser
7460 7465 7470
Lys Ser Thr Glu Pro Ile Leu Ile Lys Asp Pro Ile Asp Pro Pro Trp
7475 7480 7485
Pro Pro Gly Lys Pro Thr Val Lys Asp Val Gly Lys Thr Ser Val Arg
7490 7495 7500
Leu Asn Trp Thr Lys Pro Glu His Asp Gly Gly Ala Lys Ile Glu Ser
7505 7510 7515 7520
Tyr Val Ile Glu Met Leu Lys Thr Gly Thr Asp Glu Trp Val Arg Val
7525 7530 7535
Ala Glu Gly Val Pro Thr Thr Gln His Leu Leu Pro Gly Leu Met Glu
7540 7545 7550
Gly Gln Glu Tyr Ser Phe Arg Val Arg Ala Val Asn Lys Ala Gly Glu
7555 7560 7565
Ser Glu Pro Ser Glu Pro Ser Asp Pro Val Leu Cys Arg Glu Lys Leu
7570 7575 7580
Tyr Pro Pro Ser Pro Pro Arg Trp Leu Glu Val Ile Asn Ile Thr Lys
7585 7590 7595 7600
Asn Thr Ala Asp Leu Lys Trp Thr Val Pro Glu Lys Asp Gly Ser
7605 7610 7615
Pro Ile Thr Asn Tyr Ile Val Glu Lys Arg Asp Val Arg Arg Lys Gly
7620 7625 7630
Trp Gln Thr Val Asp Thr Thr Val Lys Asp Thr Lys Cys Thr Val Thr
7635 7640 7645
Pro Leu Thr Glu Gly Ser Leu Tyr Val Phe Arg Val Ala Ala Glu Asn
7650 7655 7660
Ala Ile Gly Gln Ser Asp Tyr Thr Glu Ile Glu Asp Ser Val Leu Ala

7665	7670	7675	7680
Lys Asp Thr Phe Thr Thr Pro Gly Pro' Pro Tyr Ala Leu Ala Val Val			
7685	7690	7695	
Asp Val Thr Lys Arg His Val Asp Leu Lys Trp Glu Pro Pro Lys Asn			
7700	7705	7710	
Asp Gly Gly Arg Pro Ile Gln Arg Tyr Val Ile Glu Lys Lys Glu Arg			
7715	7720	7725	
Leu Gly Thr Arg Trp Val Lys Ala Gly Lys Thr Ala Gly Pro Asp Cys			
7730	7735	7740	
Asn Phe Arg Val Thr Asp Val Ile Glu Gly Thr Glu Val Gln Phe Gln			
7745	7750	7755	7760
Val Arg Ala Glu Asn Glu Ala Gly Val Gly His Pro Ser Glu Pro Thr			
7765	7770	7775	
Glu Ile Leu Ser Ile Glu Asp Pro Thr Ser Pro Pro Ser Pro Pro Leu			
7780	7785	7790	
Asp Leu His Val Thr Asp Ala Gly Arg Lys His Ile Ala Ile Ala Trp			
7795	7800	7805	
Lys Pro Pro Glu Lys Asn Gly Ser Pro Ile Ile Gly Tyr His Val			
7810	7815	7820	
Glu Met Cys Pro Val Gly Thr Glu Lys Trp Met Arg Val Asn Ser Arg			
7825	7830	7835	7840
Pro Ile Lys Asp Leu Lys Phe Lys Val Glu Glu Gly Val Val Pro Asp			
7845	7850	7855	
Lys Glu Tyr Val Leu Arg Val Arg Ala Val Asn Ala Ile Gly Val Ser			
7860	7865	7870	
Glu Pro Ser Glu Ile Ser Glu Asn Val Val Ala Lys Asp Pro Asp Cys			
7875	7880	7885	
Lys Pro Thr Ile Asp Leu Glu Thr His Asp Ile Ile Val Ile Glu Gly			
7890	7895	7900	
Glu Lys Leu Ser Ile Pro Val Pro Phe Arg Ala Val Pro Val Pro Thr			
7905	7910	7915	7920
Val Ser Trp His Lys Asp Gly Lys Glu Val Lys Ala Ser Asp Arg Leu			
7925	7930	7935	
Thr Met Lys Asn Asp His Ile Ser Ala His Leu Glu Val Pro Lys Ser			
7940	7945	7950	
Val Arg Ala Asp Ala Gly Ile Tyr Thr Ile Thr Leu Glu Asn Lys Leu			
7955	7960	7965	
Gly Ser Ala Thr Ala Ser Ile Asn Val Lys Val Ile Gly Leu Pro Gly			
7970	7975	7980	
Pro Cys Lys Asp Ile Lys Ala Ser Asp Ile Thr Lys Ser Ser Cys Lys			
7985	7990	7995	8000
Leu Thr Trp Glu Pro Pro Glu Phe Asp Gly Gly Thr Pro Ile Leu His			
8005	8010	8015	
Tyr Val Leu Glu Arg Arg Glu Ala Gly Arg Arg Thr Tyr Ile Pro Val			
8020	8025	8030	
Met Ser Gly Glu Asn Lys Leu Ser Trp Thr Val Lys Asp Leu Ile Pro			
8035	8040	8045	
Asn Gly Glu Tyr Phe Phe Arg Val Lys Ala Val Asn Lys Val Gly Gly			
8050	8055	8060	
Gly Glu Tyr Ile Glu Leu Lys Asn Pro Val Ile Ala Gln Asp Pro Lys			
8065	8070	8075	8080
Gln Pro Pro Asp Pro Pro Val Asp Val Glu Val His Asn Pro Thr Ala			
8085	8090	8095	
Glu Ala Met Thr Ile Thr Trp Lys Pro Pro Leu Tyr Asp Gly Gly Ser			
8100	8105	8110	
Lys Ile Met Gly Tyr Ile Ile Glu Lys Ile Ala Lys Gly Glu Glu Arg			
8115	8120	8125	
Trp Lys Arg Cys Asn Glu His Leu Val Pro Ile Leu Thr Tyr Thr Ala			
8130	8135	8140	

Lys Gly Leu Glu Glu Gly Lys Glu Tyr Gln Phe Arg Val Arg Ala Glu
 8145 8150 8155 8160
 Asn Ala Ala Gly Ile Ser Glu Pro Ser Arg Ala Thr Pro Pro Thr Lys
 8165 8170 8175
 Ala Val Asp Pro Ile Asp Ala Pro Lys Val Ile Leu Arg Thr Ser Leu
 8180 8185 8190
 Glu Val Lys Arg Gly Asp Glu Ile Ala Leu Asp Ala Ser Ile Ser Gly
 8195 8200 8205
 Ser Pro Tyr Pro Thr Ile Thr Trp Ile Lys Asp Glu Asn Val Ile Val
 8210 8215 8220
 Pro Glu Glu Ile Lys Lys Arg Ala Ala Pro Leu Val Arg Arg Arg Lys
 8225 8230 8235 8240
 Gly Glu Val Gln Glu Glu Glu Pro Phe Val Leu Pro Leu Thr Gln Arg
 8245 8250 8255
 Leu Ser Ile Asp Asn Ser Lys Lys Gly Glu Ser Gln Leu Arg Val Arg
 8260 8265 8270
 Asp Ser Leu Arg Pro Asp His Gly Leu Tyr Met Ile Lys Val Glu Asn
 8275 8280 8285
 Asp His Gly Ile Ala Lys Ala Pro Cys Thr Val Ser Val Leu Asp Thr
 8290 8295 8300
 Pro Gly Pro Pro Ile Asn Phe Val Phe Glu Asp Ile Arg Lys Thr Ser
 8305 8310 8315 8320
 Val Leu Cys Lys Trp Glu Pro Pro Leu Asp Asp Gly Gly Ser Glu Ile
 8325 8330 8335
 Ile Asn Tyr Thr Leu Glu Lys Lys Asp Lys Thr Lys Pro Asp Ser Glu
 8340 8345 8350
 Trp Ile Val Val Thr Ser Thr Leu Arg His Cys Lys Tyr Ser Val Thr
 8355 8360 8365
 Lys Leu Ile Glu Gly Lys Glu Tyr Leu Phe Arg Val Arg Ala Glu Asn
 8370 8375 8380
 Arg Phe Gly Pro Gly Pro Pro Cys Val Ser Lys Pro Leu Val Ala Lys
 8385 8390 8395 8400
 Asp Pro Phe Gly Pro Pro Asp Ala Pro Asp Lys Pro Ile Val Glu Asp
 8405 8410 8415
 Val Thr Ser Asn Ser Met Leu Val Lys Trp Asn Glu Pro Lys Asp Asn
 8420 8425 8430
 Gly Ser Pro Ile Leu Gly Tyr Trp Leu Glu Lys Arg Glu Val Asn Ser
 8435 8440 8445
 Thr His Trp Ser Arg Val Asn Lys Ser Leu Leu Asn Ala Leu Lys Ala
 8450 8455 8460
 Asn Val Asp Gly Leu Leu Glu Gly Leu Thr Tyr Val Phe Arg Val Cys
 8465 8470 8475 8480
 Ala Glu Asn Ala Ala Gly Pro Gly Lys Phe Ser Pro Pro Ser Asp Pro
 8485 8490 8495
 Lys Thr Ala His Asp Pro Ile Ser Pro Pro Gly Pro Pro Ile Pro Arg
 8500 8505 8510
 Val Thr Asp Thr Ser Ser Thr Thr Ile Glu Leu Glu Trp Glu Pro Pro
 8515 8520 8525
 Ala Phe Asn Gly Gly Glu Ile Val Gly Tyr Phe Val Asp Lys Gln
 8530 8535 8540
 Leu Val Gly Thr Asn Lys Trp Ser Arg Cys Thr Glu Lys Met Ile Lys
 8545 8550 8555 8560
 Val Arg Gln Tyr Thr Val Lys Glu Ile Arg Glu Gly Ala Asp Tyr Lys
 8565 8570 8575
 Leu Arg Val Ser Ala Val Asn Ala Ala Gly Glu Gly Pro Pro Gly Glu
 8580 8585 8590
 Thr Gln Pro Val Thr Val Ala Glu Pro Gln Glu Pro Pro Ala Val Glu
 8595 8600 8605
 Leu Asp Val Ser Val Lys Gly Gly Ile Gln Ile Met Ala Gly Lys Thr

8610	8615	8620
Leu Arg Ile Pro Ala Val Val Thr Gly 'Arg Pro Val Pro Thr Lys Val		
8625	8630	8635
Trp Thr Lys Glu Glu Gly Glu Leu Asp Lys Asp Arg Val Val Ile Asp		8640
8645	8650	8655
Asn Val Gly Thr Lys Ser Glu Leu Ile Ile Lys Asp Ala Leu Arg Lys		
8660	8665	8670
Asp His Gly Arg Tyr Val Ile Thr Ala Thr Asn Ser Cys Gly Ser Lys		
8675	8680	8685
Phe Ala Ala Ala Arg Val Glu Val Phe Asp Val Pro Gly Pro Val Leu		
8690	8695	8700
Asp Leu Lys Pro Val Val Thr Asn Arg Lys Met Cys Leu Leu Asn Trp		
8705	8710	8715
Ser Asp Pro Glu Asp Asp Gly Gly Ser Glu Ile Thr Gly Phe Ile Ile		8720
8725	8730	8735
Glu Arg Lys Asp Ala Lys Met His Thr Trp Arg Gln Pro Ile Glu Thr		
8740	8745	8750
Glu Arg Ser Lys Cys Asp Ile Thr Gly Leu Leu Glu Gly Gln Glu Tyr		
8755	8760	8765
Lys Phe Arg Val Ile Ala Lys Asn Lys Phe Gly Cys Gly Pro Pro Val		
8770	8775	8780
Glu Ile Gly Pro Ile Leu Ala Val Asp Pro Leu Gly Pro Pro Thr Ser		
8785	8790	8795
Pro Glu Arg Leu Thr Tyr Thr Glu Arg Gln Arg Ser Thr Ile Thr Leu		
8805	8810	8815
Asp Trp Lys Glu Pro Arg Ser Asn Gly Gly Ser Pro Ile Gln Gly Tyr		
8820	8825	8830
Ile Ile Glu Lys Arg Arg His Asp Lys Pro Asp Phe Glu Arg Val Asn		
8835	8840	8845
Lys Arg Leu Cys Pro Thr Thr Ser Phe Leu Val Glu Asn Leu Asp Glu		
8850	8855	8860
His Gln Met Tyr Glu Phe Arg Val Lys Ala Val Asn Glu Ile Gly Glu		
8865	8870	8875
Ser Glu Pro Ser Leu Pro Leu Asn Val Val Ile Gln Asp Asp Glu Val		
8885	8890	8895
Pro Pro Thr Ile Lys Leu Arg Leu Ser Val Arg Gly Asp Thr Ile Lys		
8900	8905	8910
Val Lys Ala Gly Glu Pro Val His Ile Pro Ala Asp Val Thr Gly Leu		
8915	8920	8925
Pro Met Pro Lys Ile Glu Trp Ser Lys Asn Glu Thr Val Ile Glu Lys		
8930	8935	8940
Pro Thr Asp Ala Leu Gln Ile Thr Lys Glu Glu Val Ser Arg Ser Glu		
8945	8950	8955
Ala Lys Thr Glu Leu Ser Ile Pro Lys Ala Val Arg Glu Asp Lys Gly		
8965	8970	8975
Thr Tyr Thr Val Thr Ala Ser Asn Arg Leu Gly Ser Val Phe Arg Asn		
8980	8985	8990
Val His Val Glu Val Tyr Asp Arg Pro Ser Pro Pro Arg Asn Leu Ala		
8995	9000	9005
Val Thr Asp Ile Lys Ala Glu Ser Cys Tyr Leu Thr Trp Asp Ala Pro		
9010	9015	9020
Leu Asp Asn Gly Gly Ser Glu Ile Thr His Tyr Val Ile Asp Lys Arg		
9025	9030	9035
Asp Ala Ser Arg Lys Lys Ala Glu Trp Glu Glu Val Thr Asn Thr Ala		
9045	9050	9055
Val Glu Lys Arg Tyr Gly Ile Trp Lys Leu Ile Pro Asn Gly Gln Tyr		
9060	9065	9070
Glu Phe Arg Val Arg Ala Val Asn Lys Tyr Gly Ile Ser Asp Glu Cys		
9075	9080	9085

Lys Ser Asp Lys Val Val Ile Gln Asp Pro Tyr Arg Leu Pro Gly Pro
 9090 9095 9100
 Pro Gly Lys Pro Lys Val Leu Ala Arg Thr Lys Gly Ser Met Leu Val
 9105 9110 9115 9120
 Ser Trp Thr Pro Pro Leu Asp Asn Gly Gly Ser Pro Ile Thr Gly Tyr
 9125 9130 9135
 Trp Leu Glu Lys Arg Glu Glu Gly Ser Pro Tyr Trp Ser Arg Val Ser
 9140 9145 9150
 Arg Ala Pro Ile Thr Lys Val Gly Leu Lys Gly Val Glu Phe Asn Val
 9155 9160 9165
 Pro Arg Leu Leu Glu Gly Val Lys Tyr Gln Phe Arg Ala Met Ala Ile
 9170 9175 9180
 Asn Ala Ala Gly Ile Gly Pro Pro Ser Glu Pro Ser Asp Pro Glu Val
 9185 9190 9195 9200
 Ala Gly Asp Pro Ile Phe Pro Pro Gly Pro Pro Ser Cys Pro Glu Val
 9205 9210 9215
 Lys Asp Lys Thr Lys Ser Ser Ile Ser Leu Gly Trp Lys Pro Pro Ala
 9220 9225 9230
 Lys Asp Gly Gly Ser Pro Ile Lys Gly Tyr Ile Val Glu Met Gln Glu
 9235 9240 9245
 Glu Gly Thr Thr Asp Trp Lys Arg Val Asn Glu Pro Asp Lys Leu Ile
 9250 9255 9260
 Thr Thr Cys Glu Cys Val Val Pro Asn Leu Lys Glu Leu Arg Lys Tyr
 9265 9270 9275 9280
 Arg Phe Arg Val Lys Ala Val Asn Glu Ala Gly Glu Ser Glu Pro Ser
 9285 9290 9295
 Asp Thr Thr Gly Glu Ile Pro Ala Thr Asp Ile Gln Glu Glu Pro Glu
 9300 9305 9310
 Val Phe Ile Asp Ile Gly Ala Gln Asp Cys Leu Val Cys Lys Ala Gly
 9315 9320 9325
 Ser Gln Ile Arg Ile Pro Ala Val Ile Lys Gly Arg Pro Thr Pro Lys
 9330 9335 9340
 Ser Ser Trp Glu Phe Asp Gly Lys Ala Lys Lys Ala Met Lys Asp Gly
 9345 9350 9355 9360
 Val His Asp Ile Pro Glu Asp Ala Gln Leu Glu Thr Ala Glu Asn Ser
 9365 9370 9375
 Ser Val Ile Ile Ile Pro Glu Cys Lys Arg Ser His Thr Gly Lys Tyr
 9380 9385 9390
 Ser Ile Thr Ala Lys Asn Lys Ala Gly Gln Lys Thr Ala Asn Cys Arg
 9395 9400 9405
 Val Lys Val Met Asp Val Pro Gly Pro Pro Lys Asp Leu Lys Val Ser
 9410 9415 9420
 Asp Ile Thr Arg Gly Ser Cys Arg Leu Ser Trp Lys Met Pro Asp Asp
 9425 9430 9435 9440
 Asp Gly Gly Asp Arg Ile Lys Gly Tyr Val Ile Glu Lys Arg Thr Ile
 9445 9450 9455
 Asp Gly Lys Ala Trp Thr Lys Val Asn Pro Asp Cys Gly Ser Thr Thr
 9460 9465 9470
 Phe Val Val Pro Asp Leu Leu Ser Glu Gln Gln Tyr Phe Phe Arg Val
 9475 9480 9485
 Arg Ala Glu Asn Arg Phe Gly Ile Gly Pro Pro Val Glu Thr Ile Gln
 9490 9495 9500
 Arg Thr Thr Ala Arg Asp Pro Ile Tyr Pro Pro Asp Pro Pro Ile Lys
 9505 9510 9515 9520
 Leu Lys Ile Gly Leu Ile Thr Lys Asn Thr Val His Leu Ser Trp Lys
 9525 9530 9535
 Pro Pro Lys Asn Asp Gly Gly Ser Pro Val Thr His Tyr Ile Val Glu
 9540 9545 9550
 Cys Leu Ala Trp Asp Pro Thr Gly Thr Lys Lys Glu Ala Trp Arg Gln

9555	9560	9565
Cys Asn Lys Arg Asp Val Glu Glu Leu Gln Phe Thr Val Glu Asp Leu		
9570	9575	9580
Val Glu Gly Gly Glu Tyr Glu Phe Arg Val Lys Ala Val Asn Ala Ala		
9585	9590	9595
Gly Val Ser Lys Pro Ser Ala Thr Val Gly Pro Cys Asp Cys Gln Arg		
9605	9610	9615
Pro Asp Met Pro Pro Ser Ile Asp Leu Lys Glu Phe Met Glu Val Glu		
9620	9625	9630
Glu Gly Thr Asn Val Asn Ile Val Ala Lys Ile Lys Gly Val Pro Phe		
9635	9640	9645
Pro Thr Leu Thr Trp Phe Lys Ala Pro Pro Lys Lys Pro Asp Asn Lys		
9650	9655	9660
Glu Pro Val Leu Tyr Asp Thr His Val Asn Lys Leu Val Val Asp Asp		
9665	9670	9675
Thr Cys Thr Leu Val Ile Pro Gln Ser Arg Arg Ser Asp Thr Gly Leu		
9685	9690	9695
Tyr Thr Ile Thr Ala Val Asn Asn Leu Gly Thr Ala Ser Lys Glu Met		
9700	9705	9710
Arg Leu Asn Val Leu Gly Arg Pro Gly Pro Pro Val Gly Pro Ile Lys		
9715	9720	9725
Phe Glu Ser Val Ser Ala Asp Gln Met Thr Leu Ser Trp Phe Pro Pro		
9730	9735	9740
Lys Asp Asp Gly Gly Ser Lys Ile Thr Asn Tyr Val Ile Glu Lys Arg		
9745	9750	9755
Glu Ala Asn Arg Lys Thr Trp Val His Val Ser Ser Glu Pro Lys Glu		
9765	9770	9775
Cys Thr Tyr Thr Ile Pro Lys Leu Leu Glu Gly His Glu Tyr Val Phe		
9780	9785	9790
Arg Ile Met Ala Gln Asn Lys Tyr Gly Ile Gly Glu Pro Leu Asp Ser		
9795	9800	9805
Glu Pro Glu Thr Ala Arg Asn Leu Phe Ser Val Pro Gly Ala Pro Asp		
9810	9815	9820
Lys Pro Thr Val Ser Ser Val Thr Arg Asn Ser Met Thr Val Asn Trp		
9825	9830	9835
Glu Glu Pro Glu Tyr Asp Gly Gly Ser Pro Val Thr Gly Tyr Trp Leu		
9845	9850	9855
Glu Met Lys Asp Thr Thr Ser Lys Arg Trp Lys Arg Val Asn Arg Asp		
9860	9865	9870
Pro Ile Lys Ala Met Thr Leu Gly Val Ser Tyr Lys Val Thr Gly Leu		
9875	9880	9885
Ile Glu Gly Ser Asp Tyr Gln Phe Arg Val Tyr Ala Ile Asn Ala Ala		
9890	9895	9900
Gly Val Gly Pro Ala Ser Leu Pro Ser Asp Pro Ala Thr Ala Arg Asp		
9905	9910	9915
Pro Ile Ala Pro Pro Gly Pro Pro Phe Pro Lys Val Thr Asp Trp Thr		
9925	9930	9935
Lys Ser Ser Ala Asp Leu Glu Trp Ser Pro Pro Leu Lys Asp Gly Gly		
9940	9945	9950
Ser Lys Val Thr Gly Tyr Ile Val Glu Tyr Lys Glu Glu Gly Lys Glu		
9955	9960	9965
Glu Trp Glu Lys Gly Lys Asp Lys Glu Val Arg Gly Thr Lys Leu Val		
9970	9975	9980
Val Thr Gly Leu Lys Glu Gly Ala Phe Tyr Lys Phe Arg Val Ser Ala		
9985	9990	9995
Val Asn Ile Ala Gly Ile Gly Glu Pro Gly Glu Val Thr Asp Val Ile		10000
10005	10010	10015
Glu Met Lys Asp Arg Leu Val Ser Pro Asp Leu Gln Leu Asp Ala Ser		
10020	10025	10030

Val Arg Asp Arg Ile Val Val His Ala Gly Gly Val Ile Arg Ile Ile
 10035 10040 10045
 Ala Tyr Val Ser Gly Lys Pro Pro Pro Thr Val Thr Trp Asn Met Asn
 10050 10055 10060
 Glu Arg Thr Leu Pro Gln Glu Ala Thr Ile Glu Thr Thr Ala Ile Ser
 10065 10070 10075 10080
 Ser Ser Met Val Ile Lys Asn Cys Gln Arg Ser His Gln Gly Val Tyr
 10085 10090 10095
 Ser Leu Leu Ala Lys Asn Glu Ala Gly Glu Arg Lys Lys Thr Ile Ile
 10100 10105 10110
 Val Asp Val Leu Asp Val Pro Gly Pro Val Gly Thr Pro Phe Leu Ala
 10115 10120 10125
 His Asn Leu Thr Asn Glu Ser Cys Lys Leu Thr Trp Phe Ser Pro Glu
 10130 10135 10140
 Asp Asp Gly Gly Ser Pro Ile Thr Asn Tyr Val Ile Glu Lys Arg Glu
 10145 10150 10155 10160
 Ser Asp Arg Arg Ala Trp Thr Pro Val Thr Tyr Thr Val Thr Arg Gln
 10165 10170 10175
 Asn Ala Thr Val Gln Gly Leu Ile Gln Gly Lys Ala Tyr Phe Phe Arg
 10180 10185 10190
 Ile Ala Ala Glu Asn Ser Ile Gly Met Gly Pro Phe Val Glu Thr Ser
 10195 10200 10205
 Glu Ala Leu Val Ile Arg Glu Pro Ile Thr Val Pro Glu Arg Pro Glu
 10210 10215 10220
 Asp Leu Glu Val Lys Glu Val Thr Lys Asn Thr Val Thr Leu Thr Trp
 10225 10230 10235 10240
 Asn Pro Pro Lys Tyr Asp Gly Gly Ser Glu Ile Ile Asn Tyr Val Leu
 10245 10250 10255
 Glu Ser Arg Leu Ile Gly Thr Glu Lys Phe His Lys Val Thr Asn Asp
 10260 10265 10270
 Asn Leu Leu Ser Arg Lys Tyr Thr Val Lys Gly Leu Lys Glu Gly Asp
 10275 10280 10285
 Thr Tyr Glu Tyr Arg Val Ser Ala Val Asn Ile Val Gly Gln Gly Lys
 10290 10295 10300
 Pro Ser Phe Cys Thr Lys Pro Ile Thr Cys Lys Asp Glu Leu Ala Pro
 10305 10310 10315 10320
 Pro Thr Leu His Leu Asp Phe Arg Asp Lys Leu Thr Ile Arg Val Gly
 10325 10330 10335
 Glu Ala Phe Ala Leu Thr Gly Arg Tyr Ser Gly Lys Pro Lys Pro Lys
 10340 10345 10350
 Val Ser Trp Phe Lys Asp Glu Ala Asp Val Leu Glu Asp Asp Arg Thr
 10355 10360 10365
 His Ile Lys Thr Thr Pro Ala Thr Leu Ala Leu Glu Lys Ile Lys Ala
 10370 10375 10380
 Lys Arg Ser Asp Ser Gly Lys Tyr Cys Val Val Val Glu Asn Ser Thr
 10385 10390 10395 10400
 Gly Ser Arg Lys Gly Phe Cys Gln Val Asn Val Val Asp His Pro Gly
 10405 10410 10415
 Pro Pro Val Gly Pro Val Ser Phe Asp Glu Val Thr Lys Asp Tyr Met
 10420 10425 10430
 Val Ile Ser Trp Lys Pro Pro Leu Asp Asp Gly Gly Ser Lys Ile Thr
 10435 10440 10445
 Asn Tyr Ile Ile Glu Lys Lys Glu Val Gly Lys Asp Val Trp Met Pro
 10450 10455 10460
 Val Thr Ser Ala Ser Ala Lys Thr Thr Cys Lys Val Ser Lys Leu Leu
 10465 10470 10475 10480
 Glu Gly Lys Asp Tyr Ile Phe Arg Ile His Ala Glu Asn Leu Tyr Gly
 10485 10490 10495
 Ile Ser Asp Pro Leu Val Ser Asp Ser Met Lys Ala Lys Asp Arg Phe

10500	10505	10510	
Arg Val Pro Asp Ala Pro Asp Gln Pro Ile Val Thr Glu Val Thr Lys			
10515	10520	10525	
Asp Ser Ala Leu Val Thr Trp Asn Lys Pro His Asp Gly Gly Lys Pro			
10530	10535	10540	
Ile Thr Asn Tyr Ile Leu Glu Lys Arg Glu Thr Met Ser Lys Arg Trp			
10545	10550	10555	10560
Ala Arg Val Thr Lys Asp Pro Ile His Pro Tyr Thr Lys Phe Arg Val			
10565	10570	10575	
Pro Asp Leu Leu Glu Gly Cys Gln Tyr Glu Phe Arg Val Ser Ala Glu			
10580	10585	10590	
Asn Glu Ile Gly Ile Gly Asp Pro Ser Pro Pro Ser Lys Pro Val Phe			
10595	10600	10605	
Ala Lys Asp Pro Ile Ala Lys Pro Ser Pro Pro Val Asn Pro Glu Ala			
10610	10615	10620	
Ile Asp Thr Thr Cys Asn Ser Val Asp Leu Thr Trp Gln Pro Pro Arg			
10625	10630	10635	10640
His Asp Gly Gly Ser Lys Ile Leu Gly Tyr Ile Val Glu Tyr Gln Lys			
10645	10650	10655	
Val Gly Asp Glu Glu Trp Arg Arg Ala Asn His Thr Pro Glu Ser Cys			
10660	10665	10670	
Pro Glu Thr Lys Tyr Lys Val Thr Gly Leu Arg Asp Gly Gln Thr Tyr			
10675	10680	10685	
Lys Phe Arg Val Leu Ala Val Asn Ala Ala Gly Glu Ser Asp Pro Ala			
10690	10695	10700	
His Val Pro Glu Pro Val Leu Val Lys Asp Arg Leu Glu Pro Pro Glu			
10705	10710	10715	10720
Leu Ile Leu Asp Ala Asn Met Ala Arg Glu Gln His Ile Lys Val Gly			
10725	10730	10735	
Asp Thr Leu Arg Leu Ser Ala Ile Ile Lys Gly Val Pro Phe Pro Lys			
10740	10745	10750	
Val Thr Trp Lys Lys Glu Asp Arg Asp Ala Pro Thr Lys Ala Arg Ile			
10755	10760	10765	
Asp Val Thr Pro Val Gly Ser Lys Leu Glu Ile Arg Asn Ala Ala His			
10770	10775	10780	
Glu Asp Gly Gly Ile Tyr Ser Leu Thr Val Glu Asn Pro Ala Gly Ser			
10785	10790	10795	10800
Lys Thr Val Ser Val Lys Val Leu Val Leu Asp Lys Pro Gly Pro Pro			
10805	10810	10815	
Arg Asp Leu Glu Val Ser Glu Ile Arg Lys Asp Ser Cys Tyr Leu Thr			
10820	10825	10830	
Trp Lys Glu Pro Leu Asp Asp Gly Gly Ser Val Ile Thr Asn Tyr Val			
10835	10840	10845	
Val Glu Arg Arg Asp Val Ala Ser Ala Gln Trp Ser Pro Leu Ser Ala			
10850	10855	10860	
Thr Ser Lys Lys Ser His Phe Ala Lys His Leu Asn Glu Gly Asn			
10865	10870	10875	10880
Gln Tyr Leu Phe Arg Val Ala Ala Glu Asn Gln Tyr Gly Arg Gly Pro			
10885	10890	10895	
Phe Val Glu Thr Pro Lys Pro Ile Lys Ala Leu Asp Pro Leu His Pro			
10900	10905	10910	
Pro Gly Pro Pro Lys Asp Leu His Val Asp Val Asp Lys Thr Glu			
10915	10920	10925	
Val Ser Leu Val Trp Asn Lys Pro Asp Arg Asp Gly Gly Ser Pro Ile			
10930	10935	10940	
Thr Gly Tyr Leu Val Glu Tyr Gln Glu Glu Gly Thr Gln Asp Trp Ile			
10945	10950	10955	10960
Lys Phe Lys Thr Val Thr Asn Leu Glu Cys Val Val Thr Gly Leu Gln			
10965	10970	10975	

Gln Gly Lys Thr Tyr Arg Phe Arg Val Lys Ala Glu Asn Ile Val Gly
 10980 10985 10990
 Leu Gly Leu Pro Asp Thr Thr Ile Pro Ile Glu Cys Gln Glu Lys Leu
 10995 11000 11005
 Val Pro Pro Ser Val Glu Leu Asp Val Lys Leu Ile Glu Gly Leu Val
 11010 11015 11020
 Val Lys Ala Gly Thr Thr Val Arg Phe Pro Ala Ile Ile Arg Gly Val
 11025 11030 11035 11040
 Pro Val Pro Thr Ala Lys Trp Thr Thr Asp Gly Ser Glu Ile Lys Thr
 11045 11050 11055
 Asp Glu His Tyr Thr Val Glu Thr Asp Asn Phe Ser Ser Val Leu Thr
 11060 11065 11070
 Ile Lys Asn Cys Leu Arg Arg Asp Thr Gly Glu Tyr Gln Ile Thr Val
 11075 11080 11085
 Ser Asn Ala Ala Gly Ser Lys Thr Val Ala Val His Leu Thr Val Leu
 11090 11095 11100
 Asp Val Pro Gly Pro Pro Thr Gly Pro Ile Asn Ile Leu Asp Val Thr
 11105 11110 11115 11120
 Pro Glu His Met Thr Ile Ser Trp Gln Pro Pro Lys Asp Asp Gly Gly
 11125 11130 11135
 Ser Pro Val Ile Asn Tyr Ile Val Glu Lys Gln Asp Thr Arg Lys Asp
 11140 11145 11150
 Thr Trp Gly Val Val Ser Ser Gly Ser Ser Lys Thr Lys Leu Lys Ile
 11155 11160 11165
 Pro His Leu Gln Lys Gly Cys Glu Tyr Val Phe Arg Val Arg Ala Glu
 11170 11175 11180
 Asn Lys Ile Gly Val Gly Pro Pro Leu Asp Ser Thr Pro Thr Val Ala
 11185 11190 11195 11200
 Lys His Lys Phe Ser Pro Pro Ser Pro Pro Gly Lys Pro Val Val Thr
 11205 11210 11215
 Asp Ile Thr Glu Asn Ala Ala Thr Val Ser Trp Thr Leu Pro Lys Ser
 11220 11225 11230
 Asp Gly Gly Ser Pro Ile Thr Gly Tyr Tyr Met Glu Arg Arg Glu Val
 11235 11240 11245
 Thr Gly Lys Trp Val Arg Val Asn Lys Thr Pro Ile Ala Asp Leu Lys
 11250 11255 11260
 Phe Arg Val Thr Gly Leu Tyr Glu Gly Asn Thr Tyr Glu Phe Arg Val
 11265 11270 11275 11280
 Phe Ala Glu Asn Leu Ala Gly Leu Ser Lys Pro Ser Pro Ser Asp
 11285 11290 11295
 Pro Ile Lys Ala Cys Arg Pro Ile Lys Pro Pro Gly Pro Pro Ile Asn
 11300 11305 11310
 Pro Lys Leu Lys Asp Lys Ser Arg Glu Thr Ala Asp Leu Val Trp Thr
 11315 11320 11325
 Lys Pro Leu Ser Asp Gly Gly Ser Pro Ile Leu Gly Tyr Val Val Glu
 11330 11335 11340
 Cys Gln Lys Pro Gly Thr Ala Gln Trp Asn Arg Ile Asn Lys Asp Glu
 11345 11350 11355 11360
 Leu Ile Arg Gln Cys Ala Phe Arg Val Pro Gly Leu Ile Glu Gly Asn
 11365 11370 11375
 Glu Tyr Arg Phe Arg Ile Lys Ala Ala Asn Ile Val Gly Glu Gly Glu
 11380 11385 11390
 Pro Arg Glu Leu Ala Glu Ser Val Ile Ala Lys Asp Ile Leu His Pro
 11395 11400 11405
 Pro Glu Val Glu Leu Asp Val Thr Cys Arg Asp Val Ile Thr Val Arg
 11410 11415 11420
 Val Gly Gln Thr Ile Arg Ile Leu Ala Arg Val Lys Gly Arg Pro Glu
 11425 11430 11435 11440
 Pro Asp Ile Thr Trp Thr Lys Glu Gly Lys Val Leu Val Arg Glu Lys

11445	11450	11455	
Arg Val Asp Leu Ile Gln Asp Leu Pro Arg Val Glu Leu Gln Ile Lys			
11460	11465	11470	
Glu Ala Val Arg Ala Asp His Gly Lys Tyr Ile Ser Ala Lys Asn			
11475	11480	11485	
Ser Ser Gly His Ala Gln Gly Ser Ala Ile Val Asn Val Leu Asp Arg			
11490	11495	11500	
Pro Gly Pro Cys Gln Asn Leu Lys Val Thr Asn Val Thr Lys Glu Asn			
11505	11510	11515	11520
Cys Thr Ile Ser Trp Glu Asn Pro Leu Asp Asn Gly Gly Ser Glu Ile			
11525	11530	11535	
Thr Asn Phe Ile Val Glu Tyr Arg Lys Pro Asn Gln Lys Gly Trp Ser			
11540	11545	11550	
Ile Val Ala Ser Asp Val Thr Lys Arg Leu Ile Lys Ala Asn Leu Leu			
11555	11560	11565	
Ala Asn Asn Glu Tyr Tyr Phe Arg Val Cys Ala Glu Asn Lys Val Gly			
11570	11575	11580	
Val Gly Pro Thr Ile Glu Thr Lys Thr Pro Ile Leu Ala Ile Asn Pro			
11585	11590	11595	11600
Ile Asp Arg Pro Gly Glu Pro Glu Asn Leu His Ile Ala Asp Lys Gly			
11605	11610	11615	
Lys Thr Phe Val Tyr Leu Lys Trp Arg Arg Pro Asp Tyr Asp Gly Gly			
11620	11625	11630	
Ser Pro Asn Leu Ser Tyr His Val Glu Arg Arg Leu Lys Gly Ser Asp			
11635	11640	11645	
Asp Trp Glu Arg Val His Lys Gly Ser Ile Lys Glu Thr His Tyr Met			
11650	11655	11660	
Val Asp Arg Cys Val Glu Asn Gln Ile Tyr Glu Phe Arg Val Gln Thr			
11665	11670	11675	11680
Lys Asn Glu Gly Glu Ser Asp Trp Val Lys Thr Glu Glu Val Val			
11685	11690	11695	
Val Lys Glu Asp Leu Gln Lys Pro Val Leu Asp Leu Lys Leu Ser Gly			
11700	11705	11710	
Val Leu Thr Val Lys Ala Gly Asp Thr Ile Arg Leu Glu Ala Gly Val			
11715	11720	11725	
Arg Gly Lys Pro Phe Pro Glu Val Ala Trp Thr Lys Asp Lys Asp Ala			
11730	11735	11740	
Thr Asp Leu Thr Arg Ser Pro Arg Val Lys Ile Asp Thr Arg Ala Asp			
11745	11750	11755	11760
Ser Ser Lys Phe Ser Leu Thr Lys Ala Lys Arg Ser Asp Gly Gly Lys			
11765	11770	11775	
Tyr Val Val Thr Ala Thr Asn Thr Ala Gly Ser Phe Val Ala Tyr Ala			
11780	11785	11790	
Thr Val Asn Val Leu Asp Lys Pro Gly Pro Val Arg Asn Leu Lys Ile			
11795	11800	11805	
Val Asp Val Ser Ser Asp Arg Cys Thr Val Cys Trp Asp Pro Pro Glu			
11810	11815	11820	
Asp Asp Gly Gly Cys Glu Ile Gln Asn Tyr Ile Leu Glu Lys Cys Glu			
11825	11830	11835	11840
Thr Lys Arg Met Val Trp Ser Thr Tyr Ser Ala Thr Val Leu Thr Pro			
11845	11850	11855	
Gly Thr Thr Val Thr Arg Leu Ile Glu Gly Asn Glu Tyr Ile Phe Arg			
11860	11865	11870	
Val Arg Ala Glu Asn Lys Ile Gly Thr Gly Pro Pro Thr Glu Ser Lys			
11875	11880	11885	
Pro Val Ile Ala Lys Thr Lys Tyr Asp Lys Pro Gly Arg Pro Asp Pro			
11890	11895	11900	
Pro Glu Val Thr Lys Val Ser Lys Glu Glu Met Thr Val Val Trp Asn			
11905	11910	11915	11920

Pro Pro Glu Tyr Asp Gly Gly Lys Ser Ile Thr Gly Tyr Phe Leu Glu
 11925 11930 11935
 Lys Lys Glu Lys His Ser Thr Arg Trp Val Pro Val Asn Lys Ser Ala
 11940 11945 11950
 Ile Pro Glu Arg Arg Met Lys Val Gln Asn Leu Leu Pro Asp His Glu
 11955 11960 11965
 Tyr Gln Phe Arg Val Lys Ala Glu Asn Glu Ile Gly Ile Gly Glu Pro
 11970 11975 11980
 Ser Leu Pro Ser Arg Pro Val Val Ala Lys Asp Pro Ile Glu Pro Pro
 11985 11990 11995 12000
 Gly Pro Pro Thr Asn Phe Arg Val Val Asp Thr Thr Lys His Ser Ile
 12005 12010 12015
 Thr Leu Gly Trp Gly Lys Pro Val Tyr Asp Gly Gly Ala Pro Ile Ile
 12020 12025 12030
 Gly Tyr Val Val Glu Met Arg Pro Lys Ile Ala Asp Ala Ser Pro Asp
 12035 12040 12045
 Glu Gly Trp Lys Arg Cys Asn Ala Ala Ala Gln Leu Val Arg Lys Glu
 12050 12055 12060
 Phe Thr Val Thr Ser Leu Asp Glu Asn Gln Glu Tyr Glu Phe Arg Val
 12065 12070 12075 12080
 Cys Ala Gln Asn Gln Val Gly Ile Gly Arg Pro Ala Glu Leu Lys Glu
 12085 12090 12095
 Ala Ile Lys Pro Lys Glu Ile Deu Glu Pro Pro Glu Ile Asp Leu Asp
 12100 12105 12110
 Ala Ser Met Arg Lys Leu Val Ile Val Arg Ala Gly Cys Pro Ile Arg
 12115 12120 12125
 Leu Phe Ala Ile Val Arg Gly Arg Pro Ala Pro Lys Val Thr Trp Arg
 12130 12135 12140
 Lys Val Gly Ile Asp Asn Val Val Arg Lys Gly Gln Val Asp Leu Val
 12145 12150 12155 12160
 Asp Thr Met Ala Phe Leu Val Ile Pro Asn Ser Thr Arg Asp Asp Ser
 12165 12170 12175
 Gly Lys Tyr Ser Leu Thr Leu Val Asn Pro Ala Gly Glu Lys Ala Val
 12180 12185 12190
 Phe Val Asn Val Arg Val Leu Asp Thr Pro Gly Pro Val Ser Asp Leu
 12195 12200 12205
 Lys Val Ser Asp Val Thr Lys Thr Ser Cys His Val Ser Trp Ala Pro
 12210 12215 12220
 Pro Glu Asn Asp Gly Gly Ser Gln Val Thr His Tyr Ile Val Glu Lys
 12225 12230 12235 12240
 Arg Glu Ala Asp Arg Lys Thr Trp Ser Thr Val Thr Pro Glu Val Lys
 12245 12250 12255
 Lys Thr Ser Phe His Val Thr Asn Leu Val Pro Gly Asn Glu Tyr Tyr
 12260 12265 12270
 Phe Arg Val Thr Ala Val Asn Glu Tyr Gly Pro Gly Val Pro Thr Asp
 12275 12280 12285
 Val Pro Lys Pro Val Leu Ala Ser Asp Pro Leu Ser Glu Pro Asp Pro
 12290 12295 12300
 Pro Arg Lys Leu Glu Ala Thr Glu Met Thr Lys Asn Ser Ala Thr Leu
 12305 12310 12315 12320
 Ala Trp Leu Pro Pro Leu Arg Asp Gly Gly Ala Lys Ile Asp Gly Tyr
 12325 12330 12335
 Ile Ile Ser Tyr Arg Glu Glu Glu Gln Pro Ala Asp Arg Trp Thr Glu
 12340 12345 12350
 Tyr Ser Val Val Lys Asp Leu Ser Leu Val Val Thr Gly Leu Lys Glu
 12355 12360 12365
 Gly Lys Tyr Lys Phe Arg Val Ala Ala Arg Asn Ala Val Gly Val
 12370 12375 12380
 Ser Leu Pro Arg Glu Ala Glu Gly Val Tyr Glu Ala Lys Glu Gln Leu

12385	12390	12395	12400
Leu Pro Pro Lys Ile Leu Met Pro Glu Gln Ile Thr Ile Lys Ala Gly			
12405	12410	12415	
Lys Lys Leu Arg Ile Glu Ala His Val Tyr Gly Lys Pro His Pro Thr			
12420	12425	12430	
Cys Lys Trp Lys Lys Gly Glu Asp Glu Val Val Thr Ser Ser His Leu			
12435	12440	12445	
Ala Val His Lys Ala Asp Ser Ser Ser Ile Leu Ile Ile Lys Asp Val			
12450	12455	12460	
Thr Arg Lys Asp Ser Gly Tyr Tyr Ser Leu Thr Ala Glu Asn Ser Ser			
12465	12470	12475	12480
Gly Thr Asp Thr Gln Lys Ile Lys Val Val Val Met Asp Ala Pro Gly			
12485	12490	12495	
Pro Pro Gln Pro Pro Phe Asp Ile Ser Asp Ile Asp Ala Asp Ala Cys			
12500	12505	12510	
Ser Leu Ser Trp His Ile Pro Leu Glu Asp Gly Gly Ser Asn Ile Thr			
12515	12520	12525	
Asn Tyr Ile Val Glu Lys Cys Asp Val Ser Arg Gly Asp Trp Val Thr			
12530	12535	12540	
Ala Leu Ala Ser Val Thr Lys Thr Ser Cys Arg Val Gly Lys Leu Ile			
12545	12550	12555	12560
Pro Gly Gln Glu Tyr Ile Phe Arg Val Arg Ala Glu Asn Arg Phe Gly			
12565	12570	12575	
Ile Ser Glu Pro Leu Thr Ser Pro Lys Met Val Ala Gln Phe Pro Phe			
12580	12585	12590	
Gly Val Pro Ser Glu Pro Lys Asn Ala Arg Val Thr Lys Val Asn Lys			
12595	12600	12605	
Asp Cys Ile Phe Val Ala Trp Asp Arg Pro Asp Ser Asp Gly Gly Ser			
12610	12615	12620	
Pro Ile Ile Gly Tyr Leu Ile Glu Arg Lys Glu Arg Asn Ser Leu Leu			
12625	12630	12635	12640
Trp Val Lys Ala Asn Asp Thr Leu Val Arg Ser Thr Glu Tyr Pro Cys			
12645	12650	12655	
Ala Gly Leu Val Glu Gly Leu Glu Tyr Ser Phe Arg Ile Tyr Ala Leu			
12660	12665	12670	
Asn Lys Ala Gly Ser Ser Pro Pro Ser Lys Pro Thr Glu Tyr Val Thr			
12675	12680	12685	
Ala Arg Met Pro Val Asp Pro Pro Gly Lys Pro Glu Val Ile Asp Val			
12690	12695	12700	
Thr Lys Ser Thr Val Ser Leu Ile Trp Ala Arg Pro Lys His Asp Gly			
12705	12710	12715	12720
Gly Ser Lys Ile Ile Gly Tyr Phe Val Glu Ala Cys Lys Leu Pro Gly			
12725	12730	12735	
Asp Lys Trp Val Arg Cys Asn Thr Ala Pro His Gln Ile Pro Gln Glu			
12740	12745	12750	
Glu Tyr Thr Ala Thr Gly Leu Glu Glu Lys Ala Gln Tyr Gln Phe Arg			
12755	12760	12765	
Ala Ile Ala Arg Thr Ala Val Asn Ile Ser Pro Pro Ser Glu Pro Ser			
12770	12775	12780	
Asp Pro Val Thr Ile Leu Ala Glu Asn Val Pro Pro Arg Ile Asp Leu			
12785	12790	12795	12800
Ser Val Ala Met Lys Ser Leu Leu Thr Val Lys Ala Gly Thr Asn Val			
12805	12810	12815	
Cys Leu Asp Ala Thr Val Phe Gly Lys Pro Met Pro Thr Val Ser Trp			
12820	12825	12830	
Lys Lys Asp Gly Thr Leu Leu Lys Pro Ala Glu Gly Ile Lys Met Ala			
12835	12840	12845	
Met Gln Arg Asn Leu Cys Thr Leu Glu Leu Phe Ser Val Asn Arg Lys			
12850	12855	12860	

Asp Ser Gly Asp Tyr Thr Ile Thr Ala Glu Asn Ser Ser Gly Ser Lys
 12865 12870 12875 12880
 Ser Ala Thr Ile Lys Leu Lys Val Leu Asp Lys Pro Gly Pro Pro Ala
 12885 12890 12895
 Ser Val Lys Ile Asn Lys Met Tyr Ser Asp Arg Ala Met Leu Ser Trp
 12900 12905 12910
 Glu Pro Pro Leu Glu Asp Gly Gly Ser Glu Ile Thr Asn Tyr Ile Val
 12915 12920 12925
 Asp Lys Arg Glu Thr Ser Arg Pro Asn Trp Ala Gln Val Ser Ala Thr
 12930 12935 12940
 Val Pro Ile Thr Ser Cys Ser Val Glu Lys Leu Ile Glu Gly His Glu
 12945 12950 12955 12960
 Tyr Gln Phe Arg Ile Cys Ala Glu Asn Lys Tyr Gly Val Gly Asp Pro
 12965 12970 12975
 Val Phe Thr Glu Pro Ala Ile Ala Lys Asn Pro Tyr Asp Pro Pro Gly
 12980 12985 12990
 Arg Cys Asp Pro Pro Val Ile Ser Asn Ile Thr Lys Asp His Met Thr
 12995 13000 13005
 Val Ser Trp Lys Pro Pro Ala Asp Asp Gly Gly Ser Pro Ile Thr Gly
 13010 13015 13020
 Tyr Leu Leu Glu Lys Arg Glu Thr Gln Ala Val Asn Trp Thr Lys Val
 13025 13030 13035 13040
 Asn Arg Lys Pro Ile Ile Glu Arg Thr Leu Lys Ala Thr Gly Leu Gln
 13045 13050 13055
 Glu Gly Thr Glu Tyr Glu Phe Arg Val Thr Ala Ile Asn Lys Ala Gly
 13060 13065 13070
 Pro Gly Lys Pro Ser Asp Ala Ser Lys Ala Ala Tyr Ala Arg Asp Pro
 13075 13080 13085
 Gln Tyr Pro Pro Ala Pro Pro Ala Phe Pro Lys Val Tyr Asp Thr Thr
 13090 13095 13100
 Arg Ser Ser Val Ser Leu Ser Trp Gly Lys Pro Ala Tyr Asp Gly Gly
 13105 13110 13115 13120
 Ser Pro Ile Ile Gly Tyr Leu Val Glu Val Lys Arg Ala Asp Ser Asp
 13125 13130 13135
 Asn Trp Val Arg Cys Asn Leu Pro Gln Asn Leu Gln Lys Thr Arg Phe
 13140 13145 13150
 Glu Val Thr Gly Leu Met Glu Asp Thr Gln Tyr Gln Phe Arg Val Tyr
 13155 13160 13165
 Ala Val Asn Lys Ile Gly Tyr Ser Asp Pro Ser Asp Val Pro Asp Lys
 13170 13175 13180
 His Tyr Pro Lys Asp Ile Leu Ile Pro Pro Glu Gly Glu His Asp Ala
 13185 13190 13195 13200
 Asp Leu Arg Lys Thr Leu Ile Leu Arg Ala Gly Val Thr Met Arg Leu
 13205 13210 13215
 Tyr Val Pro Val Lys Gly Arg Pro Pro Pro Lys Ile Thr Trp Ser Lys
 13220 13225 13230
 Pro Asn Val Asn Leu Arg Asp Arg Ile Gly Leu Asp Ile Lys Ser Thr
 13235 13240 13245
 Asp Phe Asp Thr Phe Leu Arg Cys Glu Asn Val Asn Lys Tyr Asp Ala
 13250 13255 13260
 G1y Lys Tyr Ile Leu Thr Leu Glu Asn Ser Cys Gly Lys Lys Glu Tyr
 13265 13270 13275 13280
 Thr Ile Val Val Lys Val Leu Asp Thr Pro Gly Pro Pro Ile Asn Val
 13285 13290 13295
 Thr Val Lys Glu Ile Ser Lys Asp Ser Ala Tyr Val Thr Trp Glu Pro
 13300 13305 13310
 Pro Ile Ile Asp Gly Gly Ser Pro Ile Ile Asn Tyr Val Val Gln Lys
 13315 13320 13325
 Arg Asp Ala Glu Arg Lys Ser Trp Ser Thr Val Thr Glu Cys Ser

13330	13335	13340
Lys Thr Ser Phe Arg Val Pro Asn Leu Glu Glu Gly Lys Ser Tyr Phe		
13345 13350 13355 13360		
Phe Arg Val Phe Ala Glu Asn Glu Tyr Gly Ile Gly Asp Pro Gly Glu		
13365 13370 13375		
Thr Arg Asp Ala Val Lys Ala Ser Gln Thr Pro Gly Pro Val Val Asp		
13380 13385 13390		
Leu Lys Val Arg Ser Val Ser Lys Ser Ser Cys Ser Ile Gly Trp Lys		
13395 13400 13405		
Lys Pro His Ser Asp Gly Gly Ser Arg Ile Ile Gly Tyr Val Val Asp		
13410 13415 13420		
Phe Leu Thr Glu Glu Asn Lys Trp Gln Arg Val Met Lys Ser Leu Ser		
13425 13430 13435 13440		
Leu Gln Tyr Ser Ala Lys Asp Leu Thr Glu Gly Lys Glu Tyr Thr Phe		
13445 13450 13455		
Arg Val Ser Ala Glu Asn Glu Asn Gly Glu Gly Thr Pro Ser Glu Ile		
13460 13465 13470		
Thr Val Val Ala Arg Asp Asp Val Val Ala Pro Asp Leu Asp Leu Lys		
13475 13480 13485		
Gly Leu Pro Asp Leu Cys Tyr Leu Ala Lys Glu Asn Ser Asn Phe Arg		
13490 13495 13500		
Leu Lys Ile Pro Ile Lys Gly Lys Pro Ala Pro Ser Val Ser Trp Lys		
13505 13510 13515 13520		
Lys Gly Glu Asp Pro Leu Ala Thr Asp Thr Arg Val Ser Val Glu Ser		
13525 13530 13535		
Ser Ala Val Asn Thr Thr Leu Ile Val Tyr Asp Cys Gln Lys Ser Asp		
13540 13545 13550		
Ala Gly Lys Tyr Thr Ile Thr Leu Lys Asn Val Ala Gly Thr Lys Glu		
13555 13560 13565		
Gly Thr Ile Ser Ile Lys Val Val Gly Lys Pro Gly Ile Pro Thr Gly		
13570 13575 13580		
Pro Ile Lys Phe Asp Glu Val Thr Ala Glu Ala Met Thr Leu Lys Trp		
13585 13590 13595 13600		
Ala Pro Pro Lys Asp Asp Gly Gly Ser Glu Ile Thr Asn Tyr Ile Leu		
13605 13610 13615		
Glu Lys Arg Asp Ser Val Asn Asn Lys Trp Val Thr Cys Ala Ser Ala		
13620 13625 13630		
Val Gln Lys Thr Thr Phe Arg Val Thr Arg Leu His Glu Gly Met Glu		
13635 13640 13645		
Tyr Thr Phe Arg Val Ser Ala Glu Asn Lys Tyr Gly Val Gly Glu Gly		
13650 13655 13660		
Leu Lys Ser Glu Pro Ile Val Ala Arg His Pro Phe Asp Val Pro Asp		
13665 13670 13675 13680		
Ala Pro Pro Pro Asn Ile Val Asp Val Arg His Asp Ser Val Ser		
13685 13690 13695		
Leu Thr Trp Thr Asp Pro Lys Lys Thr Gly Gly Ser Pro Ile Thr Gly		
13700 13705 13710		
Tyr His Leu Glu Phe Lys Glu Arg Asn Ser Leu Leu Trp Lys Arg Ala		
13715 13720 13725		
Asn Lys Thr Pro Ile Arg Met Arg Asp Phe Lys Val Thr Gly Leu Thr		
13730 13735 13740		
Glu Gly Leu Glu Tyr Glu Phe Arg Val Met Ala Ile Asn Leu Ala Gly		
13745 13750 13755 13760		
Val Gly Lys Pro Ser Leu Pro Ser Glu Pro Val Val Ala Leu Asp Pro		
13765 13770 13775		
Ile Asp Pro Pro Gly Lys Pro Glu Val Ile Asn Ile Thr Arg Asn Ser		
13780 13785 13790		
Val Thr Leu Ile Trp Thr Glu Pro Lys Tyr Asp Gly Gly His Lys Leu		
13795 13800 13805		

Thr Gly Tyr Ile Val Glu Lys Arg Asp Leu Pro Ser Lys Ser Trp Met
 13810 13815 13820
 Lys Ala Asn His Val Asn Val Pro Glu Cys Ala Phe Thr Val Thr Asp
 13825 13830 13835 13840
 Leu Val Glu Gly Gly Lys Tyr Glu Phe Arg Ile Arg Ala Lys Asn Thr
 13845 13850 13855
 Ala Gly Ala Ile Ser Ala Pro Ser Glu Ser Thr Glu Thr Ile Ile Cys
 13860 13865 13870
 Lys Asp Glu Tyr Glu Ala Pro Thr Ile Val Leu Asp Pro Thr Ile Lys
 13875 13880 13885
 Asp Gly Leu Thr Ile Lys Ala Gly Asp Thr Ile Val Leu Asn Ala Ile
 13890 13895 13900
 Ser Ile Leu Gly Lys Pro Leu Pro Lys Ser Ser Trp Ser Lys Ala Gly
 13905 13910 13915 13920
 Lys Asp Ile Arg Pro Ser Asp Ile Thr Gln Ile Thr Ser Thr Pro Thr
 13925 13930 13935
 Ser Ser Met Leu Thr Ile Lys Tyr Ala Thr Arg Lys Asp Ala Gly Glu
 13940 13945 13950
 Tyr Thr Ile Thr Ala Thr Asn Pro Phe Gly Thr Lys Val Glu His Val
 13955 13960 13965
 Lys Val Thr Val Leu Asp Val Pro Gly Pro Pro Gly Pro Val Glu Ile
 13970 13975 13980
 Ser Asn Val Ser Ala Glu Lys Ala Thr Leu Thr Trp Thr Pro Pro Leu
 13985 13990 13995 14000
 Glu Asp Gly Gly Ser Pro Ile Lys Ser Tyr Ile Leu Glu Lys Arg Glu
 14005 14010 14015
 Thr Ser Arg Leu Leu Trp Thr Val Val Ser Glu Asp Ile Gln Ser Cys
 14020 14025 14030
 Arg His Val Ala Thr Lys Leu Ile Gln Gly Asn Glu Tyr Ile Phe Arg
 14035 14040 14045
 Val Ser Ala Val Asn His Tyr Gly Lys Gly Glu Pro Val Gln Ser Glu
 14050 14055 14060
 Pro Val Lys Met Val Asp Arg Phe Gly Pro Pro Gly Pro Pro Glu Lys
 14065 14070 14075 14080
 Pro Glu Val Ser Asn Val Thr Lys Asn Thr Ala Thr Val Ser Trp Lys
 14085 14090 14095
 Arg Pro Val Asp Asp Gly Gly Ser Glu Ile Thr Gly Tyr His Val Glu
 14100 14105 14110
 Arg Arg Glu Lys Lys Ser Leu Arg Trp Val Arg Ala Ile Lys Thr Pro
 14115 14120 14125
 Val Ser Asp Leu Arg Cys Lys Val Thr Gly Leu Gln Glu Gly Ser Thr
 14130 14135 14140
 Tyr Glu Phe Arg Val Ser Ala Glu Asn Arg Ala Gly Ile Gly Pro Pro
 14145 14150 14155 14160
 Ser Glu Ala Ser Asp Ser Val Leu Met Lys Asp Ala Ala Tyr Pro Pro
 14165 14170 14175
 Gly Pro Pro Ser Asn Pro His Val Thr Asp Thr Thr Lys Lys Ser Ala
 14180 14185 14190
 Ser Leu Ala Trp Gly Lys Pro His Tyr Asp Gly Gly Leu Glu Ile Thr
 14195 14200 14205
 Gly Tyr Val Val Glu His Gln Lys Val Gly Asp Glu Ala Trp Ile Lys
 14210 14215 14220
 Asp Thr Thr Gly Thr Ala Leu Arg Ile Thr Gln Phe Val Val Pro Asp
 14225 14230 14235 14240
 Leu Gln Thr Lys Glu Lys Tyr Asn Phe Arg Ile Ser Ala Ile Asn Asp
 14245 14250 14255
 Ala Gly Val Gly Glu Pro Ala Val Ile Pro Asp Val Glu Ile Val Glu
 14260 14265 14270
 Arg Glu Met Ala Pro Asp Phe Glu Leu Asp Ala Glu Leu Arg Arg Thr

14275	14280	14285
Leu Val Val Arg Ala Gly Leu Ser Ile Arg Ile Phe Val Pro Ile Lys		
14290	14295	14300
Gly Arg Pro Ala Pro Glu Val Thr Trp Thr Lys Asp Asn Ile Asn Leu		
14305	14310	14315
Lys Asn Arg Ala Asn Ile Glu Asn Thr Glu Ser Phe Thr Leu Leu Ile		
14325	14330	14335
Ile Pro Glu Cys Asn Arg Tyr Asp Thr Gly Lys Phe Val Met Thr Ile		
14340	14345	14350
Glu Asn Pro Ala Gly Lys Lys Ser Gly Phe Val Asn Val Arg Val Leu		
14355	14360	14365
Asp Thr Pro Gly Pro Val Leu Asn Leu Arg Pro Thr Asp Ile Thr Lys		
14370	14375	14380
Asp Ser Val Thr Leu His Trp Asp Leu Pro Leu Ile Asp Gly Gly Ser		
14385	14390	14395
Arg Ile Thr Asn Tyr Ile Val Glu Lys Arg Glu Ala Thr Arg Lys Ser		
14405	14410	14415
Tyr Ser Thr Ala Thr Thr Lys Cys His Lys Cys Thr Tyr Lys Val Thr		
14420	14425	14430
Gly Leu Ser Glu Gly Cys Glu Tyr Phe Arg Val Met Ala Glu Asn		
14435	14440	14445
Glu Tyr Gly Ile Glu Pro Thr Glu Thr Thr Glu Pro Val Lys Ala		
14450	14455	14460
Ser Glu Ala Pro Ser Pro Pro Asp Ser Leu Asn Ile Met Asp Ile Thr		
14465	14470	14475
Lys Ser Thr Val Ser Leu Ala Trp Pro Lys Pro Lys His Asp Gly Gly		
14485	14490	14495
Ser Lys Ile Thr Gly Tyr Val Ile Glu Ala Gln Arg Lys Gly Ser Asp		
14500	14505	14510
Gln Trp Thr His Ile Thr Thr Val Lys Gly Leu Glu Cys Val Val Arg		
14515	14520	14525
Asn Leu Thr Glu G1y Glu Glu Tyr Thr Phe Gln Val Met Ala Val Asn		
14530	14535	14540
Ser Ala Gly Arg Ser Ala Pro Arg Glu Ser Arg Pro Val Ile Val Lys		
14545	14550	14555
Glu G1n Thr Met Leu Pro Glu Leu Asp Leu Arg Gly Ile Tyr Gln Lys		
14565	14570	14575
Leu Val Ile Ala Lys Ala Gly Asp Asn Ile Lys Val Glu Ile Pro Val		
14580	14585	14590
Leu G1y Arg Pro Lys Pro Thr Val Thr Trp Lys Lys Gly Asp Gln Ile		
14595	14600	14605
Leu Lys G1n Thr G1n Arg Val Asn Phe Glu Thr Thr Ala Thr Ser Thr		
14610	14615	14620
Ile Leu Asn Ile Asn Glu Cys Val Arg Ser Asp Ser Gly Pro Tyr Pro		
14625	14630	14635
Leu Thr Ala Arg Asn Ile Val Gly Glu Val G1y Asp Val Ile Thr Ile		
14645	14650	14655
Gln Val His Asp Ile Pro Gly Pro Pro Thr Gly Pro Ile Lys Phe Asp		
14660	14665	14670
Glu Val Ser Ser Asp Phe Val Thr Phe Ser Trp Asp Pro Pro Glu Asn		
14675	14680	14685
Asp Gly Gly Val Pro Ile Ser Asn Tyr Val Val Glu Met Arg Gln Thr		
14690	14695	14700
Asp Ser Thr Thr Trp Val Glu Leu Ala Thr Thr Val Ile Arg Thr Thr		
14705	14710	14715
Tyr Lys Ala Thr Arg Leu Thr Thr Gly Leu Glu Tyr Gln Phe Arg Val		
14725	14730	14735
Lys Ala G1n Asn Arg Tyr Gly Val Gly Pro Gly Ile Thr Ser Ala Trp		
14740	14745	14750

Ile Val Ala Asn Tyr Pro Phe Lys Val Pro Gly Pro Pro Gly Thr Pro
 14755 14760 14765
 Gln Val Thr Ala Val Thr Lys Asp Ser Met Thr Ile Ser Trp His Glu
 14770 14775 14780
 Pro Leu Ser Asp Gly Gly Ser Pro Ile Leu Gly Tyr His Val Glu Arg
 14785 14790 14795 14800
 Lys Glu Arg Asn Gly Ile Leu Trp Gln Thr Val Ser Lys Ala Leu Val
 14805 14810 14815
 Pro Gly Asn Ile Phe Lys Ser Ser Gly Leu Thr Asp Gly Ile Ala Tyr
 14820 14825 14830
 Glu Phe Arg Val Ile Ala Glu Asn Met Ala Gly Lys Ser Lys Pro Ser
 14835 14840 14845
 Lys Pro Ser Glu Pro Met Leu Ala Leu Asp Pro Ile Asp Pro Pro Gly
 14850 14855 14860
 Lys Pro Val Pro Leu Asn Ile Thr Arg His Thr Val Thr Leu Lys Trp
 14865 14870 14875 14880
 Ala Lys Pro Glu Tyr Thr Gly Gly Phe Lys Ile Thr Ser Tyr Ile Val
 14885 14890 14895
 Glu Lys Arg Asp Leu Pro Asn Gly Arg Trp Leu Lys Ala Asn Phe Ser
 14900 14905 14910
 Asn Ile Leu Glu Asn Glu Phe Thr Val Ser Gly Leu Thr Glu Asp Ala
 14915 14920 14925
 Ala Tyr Glu Phe Arg Val Ile Ala Lys Asn Ala Ala Gly Ala Ile Ser
 14930 14935 14940
 Pro Pro Ser Glu Pro Ser Asp Ala Ile Thr Cys Arg Asp Asp Val Glu
 14945 14950 14955 14960
 Ala Pro Lys Ile Lys Val Asp Val Lys Phe Lys Asp Thr Val Ile Leu
 14965 14970 14975
 Lys Ala Gly Glu Ala Phe Arg Leu Glu Ala Asp Val Ser Gly Arg Pro
 14980 14985 14990
 Pro Pro Thr Met Glu Trp Ser Lys Asp Gly Lys Glu Leu Glu Gly Thr
 14995 15000 15005
 Ala Lys Leu Glu Ile Lys Ile Ala Asp Phe Ser Thr Asn Leu Val Asn
 15010 15015 15020
 Lys Asp Ser Thr Arg Arg Asp Ser Gly Ala Tyr Thr Leu Thr Ala Thr
 15025 15030 15035 15040
 Asn Pro Gly Gly Phe Ala Lys His Ile Phe Asn Val Lys Val Leu Asp
 15045 15050 15055
 Arg Pro Gly Pro Pro Glu Gly Pro Leu Ala Val Thr Glu Val Thr Ser
 15060 15065 15070
 Glu Lys Cys Val Leu Ser Trp Phe Pro Pro Leu Asp Asp Gly Gly Ala
 15075 15080 15085
 Lys Ile Asp His Tyr Ile Val Gln Lys Arg Glu Thr Ser Arg Leu Ala
 15090 15095 15100
 Trp Thr Asn Val Ala Ser Glu Val Gln Val Thr Lys Leu Lys Val Thr
 15105 15110 15115 15120
 Lys Leu Leu Lys Gly Asn Glu Tyr Ile Phe Arg Val Met Ala Val Asn
 15125 15130 15135
 Lys Tyr Gly Val Gly Glu Pro Leu Glu Ser Glu Pro Val Leu Ala Val
 15140 15145 15150
 Asn Pro Tyr Gly Pro Pro Asp Pro Pro Lys Asn Pro Glu Val Thr Thr
 15155 15160 15165
 Ile Thr Lys Asp Ser Met Val Val Cys Trp Gly His Pro Asp Ser Asp
 15170 15175 15180
 Gly Gly Ser Glu Ile Ile Asn Tyr Ile Val Glu Arg Arg Asp Lys Ala
 15185 15190 15195 15200
 Gly Gln Arg Trp Ile Lys Cys Asn Lys Lys Thr Leu Thr Asp Leu Arg
 15205 15210 15215
 Tyr Lys Val Ser Gly Leu Thr Glu Gly His Glu Tyr Glu Phe Arg Ile

15220	15225	15230
Met Ala Glu Asn Ala Ala Gly Ile Ser 'Ala Pro Ser Pro Thr Ser Pro		
15235	15240	15245
Phe Tyr Lys Ala Cys Asp Thr Val Phe Lys Pro Gly Pro Pro Gly Asn		
15250	15255	15260
Pro Arg Val Leu Asp Thr Ser Arg Ser Ser Ile Ser Ile Ala Trp Asn		
15265	15270	15275
Lys Pro Ile Tyr Asp Gly Gly Ser Glu Ile Thr Gly Tyr Met Val Glu		
15285	15290	15295
Ile Ala Leu Pro Glu Glu Asp Glu Trp Gln Ile Val Thr Pro Pro Ala		
15300	15305	15310
Gly Leu Lys Ala Thr Ser Tyr Thr Ile Thr Gly Leu Thr Glu Asn Gln		
15315	15320	15325
Glu Tyr Lys Ile Arg Ile Tyr Ala Met Asn Ser Glu Gly Leu Gly Glu		
15330	15335	15340
Pro Ala Leu Val Pro Gly Thr Pro Lys Ala Glu Asp Arg Met Leu Pro		
15345	15350	15355
Pro Glu Ile Glu Leu Asp Ala Asp Leu Arg Lys Val Val Thr Ile Arg		
15365	15370	15375
Ala Cys Cys Thr Leu Arg Leu Phe Val Pro Ile Lys Gly Arg Pro Asp		
15380	15385	15390
Pro Glu Val Lys Trp Ala Arg Asp His Gly Glu Ser Leu Asp Lys Ala		
15395	15400	15405
Ser Ile Glu Ser Ala Ser Ser Tyr Thr Leu Leu Ile Val Gly Asn Val		
15410	15415	15420
Asn Arg Phe Asp Ser Gly Lys Tyr Ile Leu Thr Val Glu Asn Ser Ser		
15425	15430	15435
Gly Ser Lys Ser Ala Phe Val Asn Val Arg Val Leu Asp Thr Pro Gly		
15445	15450	15455
Pro Pro Gln Asp Leu Lys Val Lys Glu Val Thr Lys Thr Ser Val Thr		
15460	15465	15470
Leu Thr Trp Asp Pro Pro Leu Leu Asp Gly Gly Ser Lys Ile Lys Asn		
15475	15480	15485
Tyr Ile Val Glu Lys Arg Glu Ser Thr Arg Lys Ala Tyr Ser Thr Val		
15490	15495	15500
Ala Thr Asn Cys His Lys Thr Ser Trp Lys Val Asp Gln Leu Gln Glu		
15505	15510	15515
Gly Cys Ser Tyr Tyr Phe Arg Val Leu Ala Glu Asn Glu Tyr Gly Ile		
15525	15530	15535
Gly Leu Pro Ala Glu Thr Ala Glu Ser Val Lys Ala Ser Glu Arg Pro		
15540	15545	15550
Leu Pro Pro Gly Lys Ile Thr Leu Met Asp Val Thr Arg Asn Ser Val		
15555	15560	15565
Ser Leu Ser Trp Glu Lys Pro Glu His Asp Gly Gly Ser Arg Ile Leu		
15570	15575	15580
Gly Tyr Ile Val Glu Met Gln Thr Lys Gly Ser Asp Lys Trp Ala Thr		
15585	15590	15595
Cys Ala Thr Val Lys Val Thr Glu Ala Thr Ile Thr Gly Leu Ile Gln		
15605	15610	15615
Gly Glu Glu Tyr Ser Phe Arg Val Ser Ala Gln Asn Glu Lys Gly Ile		
15620	15625	15630
Ser Asp Pro Arg Gln Leu Ser Val Pro Val Ile Ala Lys Asp Leu Val		
15635	15640	15645
Ile Pro Pro Ala Phe Lys Leu Leu Phe Asn Thr Phe Thr Val Leu Ala		
15650	15655	15660
Gly Glu Asp Leu Lys Val Asp Val Pro Phe Ile Gly Arg Pro Thr Pro		
15665	15670	15675
Ala Val Thr Trp His Lys Asp Asn Val Pro Leu Lys Gln Thr Thr Arg		
15685	15690	15695

Val Asn Ala Glu Ser Thr Glu Asn Asn Ser Leu Leu Thr Ile Lys Asp
 15700 15705 15710
 Ala Cys Arg Glu Asp Val Gly His Tyr Val Val Lys Leu Thr Asn Ser
 15715 15720 15725
 Ala Gly Glu Ala Ile Glu Thr Leu Asn Val Ile Val Leu Asp Lys Pro
 15730 15735 15740
 Gly Pro Pro Thr Gly Pro Val Lys Met Asp Glu Val Thr Ala Asp Ser
 15745 15750 15755 15760
 Ile Thr Leu Ser Trp Gly Pro Pro Lys Tyr Asp Gly Gly Ser Ser Ile
 15765 15770 15775
 Asn Asn Tyr Ile Val Glu Lys Arg Asp Thr Ser Thr Thr Trp Gln
 15780 15785 15790
 Ile Val Ser Ala Thr Val Ala Arg Thr Thr Ile Lys Ala Cys Arg Leu
 15795 15800 15805
 Lys Thr Gly Cys Glu Tyr Gln Phe Arg Ile Ala Ala Glu Asn Arg Tyr
 15810 15815 15820
 Gly Lys Ser Thr Tyr Leu Asn Ser Glu Pro Thr Val Ala Gln Tyr Pro
 15825 15830 15835 15840
 Phe Lys Val Pro Gly Pro Pro Gly Thr Pro Val Val Thr Leu Ser Ser
 15845 15850 15855
 Arg Asp Ser Met Glu Val Gln Trp Asn Glu Pro Ile Ser Asp Gly Gly
 15860 15865 15870
 Ser Arg Val Ile Gly Tyr His Leu Glu Arg Lys Glu Arg Asn Ser Ile
 15875 15880 15885
 Leu Trp Val Lys Leu Asn Lys Thr Pro Ile Pro Gln Thr Lys Phe Lys
 15890 15895 15900
 Thr Thr Gly Leu Glu Glu Gly Val Glu Tyr Glu Phe Arg Val Ser Ala
 15905 15910 15915 15920
 Glu Asn Ile Val Gly Ile Gly Lys Pro Ser Lys Val Ser Glu Cys Tyr
 15925 15930 15935
 Val Ala Arg Asp Pro Cys Asp Pro Pro Gly Arg Pro Glu Ala Ile Ile
 15940 15945 15950
 Val Thr Arg Asn Ser Val Thr Leu Gln Trp Lys Lys Pro Thr Tyr Asp
 15955 15960 15965
 Gly Gly Ser Lys Ile Thr Gly Tyr Ile Val Glu Lys Lys Glu Leu Pro
 15970 15975 15980
 Glu Gly Arg Trp Met Lys Ala Ser Phe Thr Asn Ile Ile Asp Thr His
 15985 15990 15995 16000
 Phe Glu Val Thr Gly Leu Val Glu Asp His Arg Tyr Glu Phe Arg Val
 16005 16010 16015
 Ile Ala Arg Asn Ala Ala Gly Val Phe Ser Glu Pro Ser Glu Ser Thr
 16020 16025 16030
 Gly Ala Ile Thr Ala Arg Asp Glu Val Asp Pro Pro Arg Ile Ser Met
 16035 16040 16045
 Asp Pro Lys Tyr Lys Asp Thr Ile Val Val His Ala Gly Glu Ser Phe
 16050 16055 16060
 Lys Val Asp Ala Asp Ile Tyr Gly Lys Pro Ile Pro Thr Ile Gln Trp
 16065 16070 16075 16080
 Ile Lys Gly Asp Gln Glu Leu Ser Asn Thr Ala Arg Leu Glu Ile Lys
 16085 16090 16095
 Ser Thr Asp Phe Ala Thr Ser Leu Ser Val Lys Asp Ala Val Arg Val
 16100 16105 16110
 Asp Ser Gly Asn Tyr Ile Leu Lys Ala Lys Asn Val Ala Gly Glu Arg
 16115 16120 16125
 Ser Val Thr Val Asn Val Lys Val Leu Asp Arg Pro Gly Pro Pro Glu
 16130 16135 16140
 Gly Pro Val Val Ile Ser Gly Val Thr Ala Glu Lys Cys Thr Leu Ala
 16145 16150 16155 16160
 Trp Lys Pro Pro Leu Gln Asp Gly Gly Ser Asp Ile Ile Asn Tyr Ile

16165	16170	16175
Val Glu Arg Arg Glu Thr Ser Arg	Leu Val Trp Thr Val Val Asp Ala	
16180	16185	16190
Asn Val Gln Thr Leu Ser Cys Lys	Val Thr Lys Leu Leu Glu Gly Asn	
16195	16200	16205
Glu Tyr Thr Phe Arg Ile Met Ala Val Asn Lys	Tyr Gly Val Gly Glu	
16210	16215	16220
Pro Leu Glu Ser Glu Pro Val Val Ala Lys Asn	Pro Phe Val Val Pro	
16225	16230	16235
Asp Ala Pro Lys Ala Pro Glu Val Thr Thr Val	Thr Lys Asp Ser Met	
16245	16250	16255
Ile Val Val Trp Glu Arg Pro Ala Ser Asp Gly	Gly Ser Glu Ile Leu	
16260	16265	16270
Gly Tyr Val Leu Glu Lys Arg Asp Lys Glu Gly	Ile Arg Trp Thr Arg	
16275	16280	16285
Cys His Lys Arg Leu Ile Gly Glu Leu Arg Leu	Arg Val Thr Gly Leu	
16290	16295	16300
Ile Glu Asn His Asp Tyr Glu Phe Arg Val Ser	Ala Glu Asn Ala Ala	
16305	16310	16315
Gly Leu Ser Glu Pro Ser Pro Ser Ala Tyr Gln	Lys Ala Cys Asp	
16325	16330	16335
Pro Ile Tyr Lys Pro Gly Pro Pro Asn Asn	Pro Lys Val Ile Asp Ile	
16340	16345	16350
Thr Arg Ser Ser Val Phe Leu Ser Trp Ser Lys	Pro Ile Tyr Asp Gly	
16355	16360	16365
Gly Cys Glu Ile Gln Gly Tyr Ile Val Glu Lys	Cys Asp Val Asn Val	
16370	16375	16380
Gly Glu Trp Thr Met Cys Thr Pro Pro Thr Gly	Ile Asn Lys Thr Asn	
16385	16390	16395
Ile Glu Val Glu Lys Leu Leu Glu Lys His	Glu Tyr Asn Phe Arg Ile	
16405	16410	16415
Cys Ala Ile Asn Lys Ala Gly Val Gly Glu His	Ala Asp Val Pro Gly	
16420	16425	16430
Pro Ile Ile Val Glu Glu Lys Leu Glu Ala Pro	Asp Ile Asp Leu Asp	
16435	16440	16445
Leu Glu Leu Arg Lys Ile Ile Asn Ile Arg Ala	Gly Gly Ser Leu Arg	
16450	16455	16460
Leu Phe Val Pro Ile Lys Gly Arg Pro Thr Pro	Glu Val Lys Trp Gly	
16465	16470	16475
Lys Val Asp Gly Glu Ile Arg Asp Ala Ala Ile	Ile Asp Val Thr Ser	
16485	16490	16495
Ser Phe Thr Ser Leu Val Leu Asp Asn Val Asn	Arg Tyr Asp Ser Gly	
16500	16505	16510
Lys Tyr Thr Leu Thr Leu Glu Asn Ser Ser Gly	Thr Lys Ser Ala Phe	
16515	16520	16525
Val Thr Val Arg Val Leu Asp Thr Pro Ser Pro	Pro Val Asn Leu Lys	
16530	16535	16540
Val Thr Glu Ile Thr Lys Asp Ser Val Ser Ile	Thr Trp Glu Pro Pro	
16545	16550	16555
Leu Leu Asp Gly Gly Ser Lys Ile Lys Asn	Tyr Ile Val Glu Lys Arg	
16565	16570	16575
Glu Ala Thr Arg Lys Ser Tyr Ala Ala Val Val	Thr Asn Cys His Lys	
16580	16585	16590
Asn Ser Trp Lys Ile Asp Gln Leu Gln Glu Gly	Cys Ser Tyr Tyr Phe	
16595	16600	16605
Arg Val Thr Ala Glu Asn Glu Tyr Ile Gly	Leu Pro Ala Gln Thr	
16610	16615	16620
Ala Asp Pro Ile Lys Val Ala Glu Val Pro Gln	Pro Pro Gly Lys Ile	
16625	16630	16635
		16640

Thr Val Asp Asp Val Thr Arg Asn Ser Val Ser Leu Ser Trp Thr Lys
 16645 .16650. 16655
 Pro Glu His Asp Gly Gly Ser Lys Ile Ile Gln Tyr Ile Val Glu Met
 16660 16665 16670
 Gln Ala Lys His Ser Glu Lys Trp Ser Glu Cys Ala Arg Val Lys Ser
 16675 16680 16685
 Leu Gln Ala Val Ile Thr Asn Leu Thr Gln Gly Glu Glu Tyr Leu Phe
 16690 16695 16700
 Arg Val Val Ala Val Asn Glu Lys Gly Arg Ser Asp Pro Arg Ser Leu
 16705 16710 16715 16720
 Ala Val Pro Ile Val Ala Lys Asp Leu Val Ile Glu Pro Asp Val Lys
 16725 16730 16735
 Pro Ala Phe Ser Ser Tyr Ser Val Gln Val Gly Gln Asp Leu Lys Ile
 16740 16745 16750
 Glu Val Pro Ile Ser Gly Arg Pro Lys Pro Thr Ile Thr Trp Thr Lys
 16755 16760 16765
 Asp Gly Leu Pro Leu Lys Gln Thr Thr Arg Ile Asn Val Thr Asp Ser
 16770 16775 16780
 Leu Asp Leu Thr Thr Leu Ser Ile Lys Glu Thr His Lys Asp Asp Gly
 16785 16790 16795 16800
 Gly Gln Tyr Gly Ile Thr Val Ala Asn Val Val Gly Gln Lys Thr Ala
 16805 16810 16815
 Ser Ile Glu Ile Val Thr Leu Asp Lys Pro Asp Pro Pro Lys Gly Pro
 16820 16825 16830
 Val Lys Phe Asp Asp Val Ser Ala Glu Ser Ile Thr Leu Ser Trp Asn
 16835 16840 16845
 Pro Pro Leu Tyr Thr Gly Gly Cys Gln Ile Thr Asn Tyr Ile Val Gln
 16850 16855 16860
 Lys Arg Asp Thr Thr Thr Val Trp Asp Val Val Ser Ala Thr Val
 16865 16870 16875 16880
 Ala Arg Thr Thr Leu Lys Val Thr Lys Leu Lys Thr Gly Thr Glu Tyr
 16885 16890 16895
 Gln Phe Arg Ile Phe Ala Glu Asn Arg Tyr Gly Gln Ser Phe Ala Leu
 16900 16905 16910
 Glu Ser Asp Pro Ile Val Ala Gln Tyr Pro Tyr Lys Glu Pro Gly Pro
 16915 16920 16925
 Pro Gly Thr Pro Phe Ala Thr Ala Ile Ser Lys Asp Ser Met Val Ile
 16930 16935 16940
 Gln Trp His Glu Pro Val Asn Asn Gly Gly Ser Pro Val Ile Gly Tyr
 16945 16950 16955 16960
 His Leu Glu Arg Lys Glu Arg Asn Ser Ile Leu Trp Thr Lys Val Asn
 16965 16970 16975
 Lys Thr Ile Ile His Asp Thr Gln Phe Lys Ala Gln Asn Leu Glu Glu
 16980 16985 16990
 Gly Ile Glu Tyr Glu Phe Arg Val Tyr Ala Glu Asn Ile Val Gly Val
 16995 17000 17005
 Gly Lys Ala Ser Lys Asn Ser Glu Cys Tyr Val Ala Arg Asp Pro Cys
 17010 17015 17020
 Asp Pro Pro Gly Thr Pro Glu Pro Ile Met Val Lys Arg Asn Glu Ile
 17025 17030 17035 17040
 Thr Leu Gln Trp Thr Lys Pro Val Tyr Asp Gly Gly Ser Met Ile Thr
 17045 17050 17055
 Gly Tyr Ile Val Glu Lys Arg Asp Leu Pro Asp Gly Arg Trp Met Lys
 17060 17065 17070
 Ala Ser Phe Thr Asn Val Ile Glu Thr Gln Phe Thr Val Ser Gly Leu
 17075 17080 17085
 Thr Glu Asp Gln Arg Tyr Glu Phe Arg Val Ile Ala Lys Asn Ala Ala
 17090 17095 17100
 Gly Ala Ile Ser Lys Pro Ser Asp Ser Thr Gly Pro Ile Thr Ala Lys

17105	17110	17115	17120
Asp Glu Val Glu Leu Pro Arg Ile Ser Met Asp Pro Lys Phe Arg Asp			
17125	17130	17135	
Thr Ile Val Val Asn Ala Gly Glu Thr Phe Arg Leu Glu Ala Asp Val			
17140	17145	17150	
His Gly Lys Pro Leu Pro Thr Ile Glu Trp Leu Arg Gly Asp Lys Glu			
17155	17160	17165	
Ile Glu Glu Ser Ala Arg Cys Glu Ile Lys Asn Thr Asp Phe Lys Ala			
17170	17175	17180	
Leu Leu Ile Val Lys Asp Ala Ile Arg Ile Asp Gly Gly Gln Tyr Ile			
17185	17190	17195	17200
Leu Arg Ala Ser Asn Val Ala Gly Ser Lys Ser Phe Pro Val Asn Val			
17205	17210	17215	
Lys Val Leu Asp Arg Pro Gly Pro Pro Glu Gly Pro Val Gln Val Thr			
17220	17225	17230	
Gly Val Thr Ser Glu Lys Cys Ser Leu Thr Trp Ser Pro Pro Leu Gln			
17235	17240	17245	
Asp Gly Gly Ser Asp Ile Ser His Tyr Val Val Glu Lys Arg Glu Thr			
17250	17255	17260	
Ser Arg Leu Ala Trp Thr Val Val Ala Ser Glu Val Val Thr Asn Ser			
17265	17270	17275	17280
Leu Lys Val Thr Lys Leu Leu Glu Gly Asn Glu Tyr Val Phe Arg Ile			
17285	17290	17295	
Met Ala Val Asn Lys Tyr Gly Val Gly Glu Pro Leu Glu Ser Ala Pro			
17300	17305	17310	
Val Leu Met Lys Asn Pro Phe Val Leu Pro Gly Pro Pro Lys Ser Leu			
17315	17320	17325	
Glu Val Thr Asn Ile Ala Lys Asp Ser Met Thr Val Cys Trp Asn Arg			
17330	17335	17340	
Pro Asp Ser Asp Gly Gly Ser Glu Ile Ile Gly Tyr Ile Val Glu Lys			
17345	17350	17355	17360
Arg Asp Arg Ser Gly Ile Arg Trp Ile Lys Cys Asn Lys Arg Arg Ile			
17365	17370	17375	
Thr Asp Leu Arg Leu Arg Val Thr Gly Leu Thr Glu Asp His Glu Tyr			
17380	17385	17390	
Glu Phe Arg Val Ser Ala Glu Asn Ala Ala Gly Val Gly Glu Pro Ser			
17395	17400	17405	
Pro Ala Thr Val Tyr Tyr Lys Ala Cys Asp Pro Val Phe Lys Pro Gly			
17410	17415	17420	
Pro Pro Thr Asn Ala His Ile Val Asp Thr Thr Lys Asn Ser Ile Thr			
17425	17430	17435	17440
Leu Ala Trp Gly Lys Pro Ile Tyr Asp Gly Gly Ser Glu Ile Leu Gly			
17445	17450	17455	
Tyr Val Val Glu Ile Cys Lys Ala Asp Glu Glu Glu Trp Gln Ile Val			
17460	17465	17470	
Thr Pro Gln Thr Gly Leu Arg Val Thr Arg Phe Glu Ile Ser Lys Leu			
17475	17480	17485	
Thr Glu His Gln Glu Tyr Lys Ile Arg Val Cys Ala Leu Asn Lys Val			
17490	17495	17500	
Gly Leu Gly Glu Ala Thr Ser Val Pro Gly Thr Val Lys Pro Glu Asp			
17505	17510	17515	17520
Lys Leu Glu Ala Pro Glu Leu Asp Leu Asp Ser Glu Leu Arg Lys Gly			
17525	17530	17535	
Ile Val Val Arg Ala Gly Gly Ser Ala Arg Ile His Ile Pro Phe Lys			
17540	17545	17550	
Gly Arg Pro Met Pro Glu Ile Thr Trp Ser Arg Glu Glu Gly Glu Phe			
17555	17560	17565	
Thr Asp Lys Val Gln Ile Glu Lys Gly Val Asn Tyr Thr Gln Leu Ser			
17570	17575	17580	

Ile Asp Asn Cys Asp Arg Asn Asp Ala Gly Lys Tyr Ile Leu Lys Leu
 17585 17590 17595 17600
 Glu Asn Ser Ser Gly Ser Lys Ser Ala Phe Val Thr Val Lys Val Leu
 17605 17610 17615
 Asp Thr Pro Gly Pro Pro Gln Asn Leu Ala Val Lys Glu Val Arg Lys
 17620 17625 17630
 Asp Ser Ala Phe Leu Val Trp Glu Pro Pro Ile Asp Gly Gly Ala
 17635 17640 17645
 Lys Val Lys Asn Tyr Val Ile Asp Lys Arg Glu Ser Thr Arg Lys Ala
 17650 17655 17660
 Tyr Ala Asn Val Ser Ser Lys Cys Ser Lys Thr Ser Phe Lys Val Glu
 17665 17670 17675 17680
 Asn Leu Thr Glu Gly Ala Ile Tyr Tyr Phe Arg Val Met Ala Glu Asn
 17685 17690 17695
 Glu Phe Gly Val Gly Val Pro Val Glu Thr Val Asp Ala Val Lys Ala
 17700 17705 17710
 Ala Glu Pro Pro Ser Pro Pro Gly Lys Val Thr Leu Thr Asp Val Ser
 17715 17720 17725
 Gln Thr Ser Ala Ser Leu Met Trp Glu Lys Pro Glu His Asp Gly Gly
 17730 17735 17740
 Ser Arg Val Leu Gly Tyr Val Val Glu Met Gln Pro Lys Gly Thr Glu
 17745 17750 17755 17760
 Lys Trp Ser Ile Val Ala Glu Ser Lys Val Cys Asn Ala Val Val Thr
 17765 17770 17775
 Gly Leu Ser Ser Gly Gln Glu Tyr Gln Phe Arg Val Lys Ala Tyr Asn
 17780 17785 17790
 Glu Lys Gly Lys Ser Asp Pro Arg Val Leu Gly Val Pro Val Ile Ala
 17795 17800 17805
 Lys Asp Leu Thr Ile Gln Pro Ser Leu Lys Leu Pro Phe Asn Thr Tyr
 17810 17815 17820
 Ser Ile Gln Ala Gly Glu Asp Leu Lys Ile Glu Ile Pro Val Ile Gly
 17825 17830 17835 17840
 Arg Pro Arg Pro Asn Ile Ser Trp Val Lys Asp Gly Glu Pro Leu Lys
 17845 17850 17855
 Gln Thr Thr Arg Val Asn Val Glu Glu Thr Ala Thr Ser Thr Val Leu
 17860 17865 17870
 His Ile Lys Glu Gly Asn Lys Asp Asp Phe Gly Lys Tyr Thr Val Thr
 17875 17880 17885
 Ala Thr Asn Ser Ala Gly Thr Ala Thr Glu Asn Leu Ser Val Ile Val
 17890 17895 17900
 Leu Glu Lys Pro Gly Pro Pro Val Gly Pro Val Arg Phe Asp Glu Val
 17905 17910 17915 17920
 Ser Ala Asp Phe Val Val Ile Ser Trp Glu Pro Pro Ala Tyr Thr Gly
 17925 17930 17935
 Gly Cys Gln Ile Ser Asn Tyr Ile Val Glu Lys Arg Asp Thr Thr Thr
 17940 17945 17950
 Thr Thr Trp His Met Val Ser Ala Thr Val Ala Arg Thr Thr Ile Lys
 17955 17960 17965
 Ile Thr Lys Leu Lys Thr Gly Thr Glu Tyr Gln Phe Arg Ile Phe Ala
 17970 17975 17980
 Glu Asn Arg Tyr Gly Lys Ser Ala Pro Leu Asp Ser Lys Ala Val Ile
 17985 17990 17995 18000
 Val Gln Tyr Pro Phe Lys Glu Pro Gly Pro Pro Gly Thr Pro Phe Val
 18005 18010 18015
 Thr Ser Ile Ser Lys Asp Gln Met Leu Val Gln Trp His Glu Pro Val
 18020 18025 18030
 Asn Asp Gly Gly Thr Lys Ile Ile Gly Tyr His Leu Glu Gln Lys Glu
 18035 18040 18045
 Lys Asn Ser Ile Leu Trp Val Lys Leu Asn Lys Thr Pro Ile Gln Asp

18050	18055	18060
Thr Lys Phe Lys Thr Thr Gly Leu Asp Glu Gly Leu Glu Tyr Glu Phe		
18065 18070	18075	18080
Lys Val Ser Ala Glu Asn Ile Val Gly Ile Gly Lys Pro Ser Lys Val		
18085 18090	18095	
Ser Glu Cys Phe Val Ala Arg Asp Pro Cys Asp Pro Pro Gly Arg Pro		
18100 18105	18110	
Glu Ala Ile Val Ile Thr Arg Asn Asn Val Thr Leu Lys Trp Lys Lys		
18115 18120	18125	
Pro Ala Tyr Asp Gly Gly Ser Lys Ile Thr Gly Tyr Ile Val Glu Lys		
18130 18135	18140	
Lys Asp Leu Pro Asp Gly Arg Trp Met Lys Ala Ser Phe Thr Asn Val		
18145 18150	18155	18160
Leu Glu Thr Glu Phe Thr Val Ser Gly Leu Val Glu Asp Gln Arg Tyr		
18165 18170	18175	
Glu Phe Arg Val Ile Ala Arg Asn Ala Ala Gly Asn Phe Ser Glu Pro		
18180 18185	18190	
Ser Asp Ser Ser Gly Ala Ile Thr Ala Arg Asp Glu Ile Asp Ala Pro		
18195 18200	18205	
Asn Ala Ser Leu Asp Pro Lys Tyr Lys Asp Val Ile Val Val His Ala		
18210 18215	18220	
Gly Glu Thr Phe Val Leu Glu Ala Asp Ile Arg Gly Lys Pro Ile Pro		
18225 18230	18235	18240
Asp Val Val Trp Ser Lys Asp Gly Lys Glu Leu Glu Glu Thr Ala Ala		
18245 18250	18255	
Arg Met Glu Ile Lys Ser Thr Ile Gln Lys Thr Thr Leu Val Val Lys		
18260 18265	18270	
Asp Cys Ile Arg Thr Asp Gly Gly Gln Tyr Ile Leu Lys Leu Ser Asn		
18275 18280	18285	
Val Gly Gly Thr Lys Ser Ile Pro Ile Thr Val Lys Val Leu Asp Arg		
18290 18295	18300	
Pro Gly Ser Pro Glu Gly Pro Leu Lys Val Thr Gly Val Thr Ala Glu		
18305 18310	18315	18320
Lys Cys Tyr Leu Ala Trp Asn Pro Pro Leu Gln Asp Gly Gly Ala Asn		
18325 18330	18335	
Ile Ser His Tyr Ile Ile Glu Lys Arg Glu Thr Ser Arg Leu Ser Trp		
18340 18345	18350	
Thr Gln Val Ser Thr Glu Val Gln Ala Leu Asn Tyr Lys Val Thr Lys		
18355 18360	18365	
Leu Leu Pro Gly Asn Glu Tyr Ile Phe Arg Val Met Ala Val Asn Lys		
18370 18375	18380	
Tyr Gly Ile Gly Glu Pro Leu Glu Ser Gly Pro Val Thr Ala Cys Asn		
18385 18390	18395	18400
Pro Tyr Lys Pro Pro Gly Pro Pro Ser Thr Pro Glu Val Ser Ala Ile		
18405 18410	18415	
Thr Lys Asp Ser Met Val Val Thr Trp Ala Arg Pro Val Asp Asp Gly		
18420 18425	18430	
Gly Thr Glu Ile Glu Gly Tyr Ile Leu Glu Lys Arg Asp Lys Glu Gly		
18435 18440	18445	
Val Arg Trp Thr Lys Cys Asn Lys Lys Thr Leu Thr Asp Leu Arg Leu		
18450 18455	18460	
Arg Val Thr Gly Leu Thr Glu Gly His Ser Tyr Glu Phe Arg Val Ala		
18465 18470	18475	18480
Ala Glu Asn Ala Ala Gly Val Gly Glu Pro Ser Glu Pro Ser Val Phe		
18485 18490	18495	
Tyr Arg Ala Cys Asp Ala Leu Tyr Pro Pro Gly Pro Pro Ser Asn Pro		
18500 18505	18510	
Lys Val Thr Asp Thr Ser Arg Ser Ser Val Ser Leu Ala Trp Ser Lys		
18515 18520	18525	

Pro Ile Tyr Asp Gly Gly Ala Pro Val Lys Gly Tyr Val Val Glu Val
 18530 18535 18540
 Lys Glu Ala Ala Ala Asp Glu Trp Thr Thr Cys Thr Pro Pro Thr Gly
 18545 18550 18555 18560
 Leu Gln Gly Lys Gln Phe Thr Val Thr Lys Leu Lys Glu Asn Thr Glu
 18565 18570 18575
 Tyr Asn Phe Arg Ile Cys Ala Ile Asn Ser Glu Gly Val Gly Glu Pro
 18580 18585 18590
 Ala Thr Leu Pro Gly Ser Val Val Ala Gln Glu Arg Ile Glu Pro Pro
 18595 18600 18605
 Glu Ile Glu Leu Asp Ala Asp Leu Arg Lys Val Val Val Leu Arg Ala
 18610 18615 18620
 Ser Ala Thr Leu Arg Leu Phe Val Thr Ile Lys Gly Arg Pro Glu Pro
 18625 18630 18635 18640
 Glu Val Lys Trp Glu Lys Ala Glu Gly Ile Leu Thr Asp Arg Ala Gln
 18645 18650 18655
 Ile Glu Val Thr Ser Ser Phe Thr Met Leu Val Ile Asp Asn Val Thr
 18660 18665 18670
 Arg Phe Asp Ser Gly Arg Tyr Asn Leu Thr Leu Glu Asn Asn Ser Gly
 18675 18680 18685
 Ser Lys Thr Ala Phe Val Asn Val Arg Val Leu Asp Ser Pro Ser Ala
 18690 18695 18700
 Pro Val Asn Leu Thr Ile Arg Glu Val Lys Lys Asp Ser Val Thr Leu
 18705 18710 18715 18720
 Ser Trp Glu Pro Pro Leu Ile Asp Gly Gly Ala Lys Ile Thr Asn Tyr
 18725 18730 18735
 Ile Val Glu Lys Arg Glu Thr Thr Arg Lys Ala Tyr Ala Thr Ile Thr
 18740 18745 18750
 Asn Asn Cys Thr Lys Thr Phe Arg Ile Glu Asn Leu Gln Glu Gly
 18755 18760 18765
 Cys Ser Tyr Tyr Phe Arg Val Leu Ala Ser Asn Glu Tyr Gly Ile Gly
 18770 18775 18780
 Leu Pro Ala Glu Thr Thr Glu Pro Val Lys Val Ser Glu Pro Pro Leu
 18785 18790 18795 18800
 Pro Pro Gly Arg Val Thr Leu Val Asp Val Thr Arg Asn Thr Ala Thr
 18805 18810 18815
 Ile Lys Trp Glu Lys Pro Glu Ser Asp Gly Gly Ser Lys Ile Thr Gly
 18820 18825 18830
 Tyr Val Val Glu Met Gln Thr Lys Gly Ser Glu Lys Trp Ser Thr Cys
 18835 18840 18845
 Thr Gln Val Lys Thr Leu Glu Ala Thr Ile Ser Gly Leu Thr Ala Gly
 18850 18855 18860
 Glu Glu Tyr Val Phe Arg Val Ala Ala Val Asn Glu Lys Gly Arg Ser
 18865 18870 18875 18880
 Asp Pro Arg Gln Leu Gly Val Pro Val Ile Ala Arg Asp Ile Glu Ile
 18885 18890 18895
 Lys Pro Ser Val Glu Leu Pro Phe His Thr Phe Asn Val Lys Ala Arg
 18900 18905 18910
 Glu Gln Leu Lys Ile Asp Val Pro Phe Lys Gly Arg Pro Gln Ala Thr
 18915 18920 18925
 Val Asn Trp Arg Lys Asp Gly Gln Thr Leu Lys Glu Thr Thr Arg Val
 18930 18935 18940
 Asn Val Ser Ser Lys Thr Val Thr Ser Leu Ser Ile Lys Glu Ala
 18945 18950 18955 18960
 Ser Lys Glu Asp Val Gly Thr Tyr Glu Leu Cys Val Ser Asn Ser Ala
 18965 18970 18975
 Gly Ser Ile Thr Val Pro Ile Thr Ile Ile Val Leu Asp Arg Pro Gly
 18980 18985 18990
 Pro Pro Gly Pro Ile Arg Ile Asp Glu Val Ser Cys Asp Ser Ile Thr

18995	19000	19005
Ile Ser Trp Asn Pro Pro	Glu Tyr Asp.Gly	Gly Cys Gln Ile Ser Asn
19010	19015	19020
Tyr Ile Val Glu Lys Lys	Glu Thr Thr Ser Thr	Thr Trp His Ile Val
19025	19030	19035 19040
Ser Gln Ala Val Ala Arg Thr Ser Ile	Lys Ile Val Arg Leu	Thr Thr
19045	19050	19055
Gly Ser Glu Tyr Gln Phe Arg Val Cys Ala	Glu Asn Arg Tyr Gly Lys	
19060	19065	19070
Ser Ser Tyr Ser Glu Ser Ser Ala Val Val	Ala Glu Tyr Pro Phe Ser	
19075	19080	19085
Pro Pro Gly Pro Pro Gly Thr Pro	Lys Val Val His Ala Thr Lys Ser	
19090	19095	19100
Thr Met Leu Val Thr Trp Gln Val Pro Val	Asn Asp Gly Gly Ser Arg	
19105	19110	19115 19120
Val Ile Gly Tyr His Leu Glu Tyr Lys	Glu Arg Ser Ser Ile Leu Trp	
19125	19130	19135
Ser Lys Ala Asn Lys Ile Leu Ile Ala Asp	Thr Gln Val Lys Val Ser	
19140	19145	19150
Gly Leu Asp Glu Gly Leu Met Tyr Glu Tyr Arg Val	Tyr Ala Glu Asn	
19155	19160	19165
Ile Ala Gly Ile Gly Lys Cys Ser Lys Ser	Cys Glu Pro Val Pro Ala	
19170	19175	19180
Arg Asp Pro Cys Asp Pro Pro Gly Gln Pro	Glu Val Thr Asn Ile Thr	
19185	19190	19195 19200
Arg Lys Ser Val Ser Leu Lys Trp Ser Lys	Pro His Tyr Asp Gly Gly	
19205	19210	19215
Ala Lys Ile Thr Gly Tyr Ile Val Glu Arg Arg	Glu Leu Pro Asp Gly	
19220	19225	19230
Arg Trp Leu Lys Cys Asn Tyr Thr Asn Ile	Gln Glu Thr Tyr Phe Glu	
19235	19240	19245
Val Thr Glu Leu Thr Glu Asp Gln Arg Tyr	Glu Phe Arg Val Phe Ala	
19250	19255	19260
Arg Asn Ala Ala Asp Ser Val Ser Glu Pro	Ser Glu Ser Thr Gly Pro	
19265	19270	19275 19280
Ile Ile Val Lys Asp Asp Val Glu Pro Pro	Arg Val Met Met Asp Val	
19285	19290	19295
Lys Phe Arg Asp Val Ile Val Val Lys	Ala Gly Glu Val Leu Lys Ile	
19300	19305	19310
Asn Ala Asp Ile Ala Gly Arg Pro Leu Pro Val	Ile Ser Trp Ala Lys	
19315	19320	19325
Asp Gly Ile Glu Ile Glu Glu Arg Ala Arg	Thr Glu Ile Ile Ser Thr	
19330	19335	19340
Asp Asn His Thr Leu Leu Thr Val Lys Asp	Cys Ile Arg Arg Asp Thr	
19345	19350	19355 19360
Gly Gln Tyr Val Leu Thr Leu Lys Asn Val	Ala Gly Thr Arg Ser Val	
19365	19370	19375
Ala Val Asn Cys Lys Val Leu Asp Lys Pro	Gly Pro Pro Ala Gly Pro	
19380	19385	19390
Leu Glu Ile Asn Gly Leu Thr Ala Glu Lys	Cys Ser Leu Ser Trp Gly	
19395	19400	19405
Arg Pro Gln Glu Asp Gly Gly Ala Asp Ile	Asp Tyr Tyr His Arg Lys	
19410	19415	19420
Lys Arg Glu Thr Ser His Leu Ala Trp Thr	Ile Cys Glu Gly Glu Leu	
19425	19430	19435 19440
Gln Met Thr Ser Cys Lys Val Thr Lys Leu	Leu Lys Gly Asn Glu Tyr	
19445	19450	19455
Ile Phe Arg Val Thr Gly Val Asn Lys Tyr	Gly Val Gly Glu Pro Leu	
19460	19465	19470

Glu Ser Val Ala Ile Lys Ala Leu Asp Pro Phe Thr Val Pro Ser Pro
 19475 19480 . . 19485
 Pro Thr Ser Leu Glu Ile Thr Ser Val Thr Lys Glu Ser Met Thr Leu
 19490 19495 19500
 Cys Trp Ser Arg Pro Glu Ser Asp Gly Gly Ser Glu Ile Ser Gly Tyr
 19505 19510 19515 19520
 Ile Ile Glu Arg Arg Glu Lys Asn Ser Leu Arg Trp Val Arg Val Asn
 19525 19530 19535
 Lys Lys Pro Val Tyr Asp Leu Arg Val Lys Ser Thr Gly Leu Arg Glu
 19540 19545 19550
 Gly Cys Glu Tyr Glu Tyr Arg Val Tyr Ala Glu Asn Ala Ala Gly Leu
 19555 19560 19565
 Ser Leu Pro Ser Glu Thr Ser Pro Leu Ile Arg Ala Glu Asp Pro Val
 19570 19575 19580
 Phe Leu Pro Ser Pro Pro Ser Lys Pro Lys Ile Val Asp Ser Gly Lys
 19585 19590 19595 19600
 Thr Thr Ile Thr Ile Ala Trp Val Lys Pro Leu Phe Asp Gly Gly Ala
 19605 19610 19615
 Pro Ile Thr Gly Tyr Thr Val Glu Tyr Lys Ser Asp Asp Thr Asp
 19620 19625 19630
 Trp Lys Thr Ser Ile Gln Ser Leu Arg Gly Thr Glu Tyr Thr Ile Ser
 19635 19640 19645
 Gly Leu Thr Thr Gly Ala Glu Tyr Val Phe Arg Val Lys Ser Val Asn
 19650 19655 19660
 Lys Val Gly Ala Ser Asp Pro Ser Asp Ser Asp Pro Gln Ile Ala
 19665 19670 19675 19680
 Lys Glu Arg Glu Glu Pro Leu Phe Asp Ile Asp Ser Glu Met Arg
 19685 19690 19695
 Lys Thr Leu Ile Val Lys Ala Gly Ala Ser Phe Thr Met Thr Val Pro
 19700 19705 19710
 Phe Arg Gly Arg Pro Val Pro Asn Val Leu Trp Ser Lys Pro Asp Thr
 19715 19720 19725
 Asp Leu Arg Thr Arg Ala Tyr Val Asp Thr Thr Asp Ser Arg Thr Ser
 19730 19735 19740
 Leu Thr Ile Glu Asn Ala Asn Arg Asn Asp Ser Gly Lys Tyr Thr Leu
 19745 19750 19755 19760
 Thr Ile Gln Asn Val Leu Ser Ala Ala Ser Leu Thr Leu Val Val Lys
 19765 19770 19775
 Val Leu Asp Thr Pro Gly Pro Pro Thr Asn Ile Thr Val Gln Asp Val
 19780 19785 19790
 Thr Lys Glu Ser Ala Val Leu Ser Trp Asp Val Pro Glu Asn Asp Gly
 19795 19800 19805
 Gly Ala Pro Val Lys Asn Tyr His Ile Glu Lys Arg Glu Ala Ser Lys
 19810 19815 19820
 Lys Ala Trp Val Ser Val Thr Asn Asn Cys Asn Arg Leu Ser Tyr Lys
 19825 19830 19835 19840
 Val Thr Asn Leu Gln Glu Gly Ala Ile Tyr Tyr Phe Arg Val Ser Gly
 19845 19850 19855
 Glu Asn Glu Phe Gly Val Gly Ile Pro Ala Glu Thr Lys Glu Gly Val
 19860 19865 19870
 Lys Ile Thr Glu Lys Pro Ser Pro Pro Glu Lys Leu Gly Val Thr Ser
 19875 19880 19885
 Ile Ser Lys Asp Ser Val Ser Leu Thr Trp Leu Lys Pro Glu His Asp
 19890 19895 19900
 Gly Gly Ser Arg Ile Val His Tyr Val Val Glu Ala Leu Glu Lys Gly
 19905 19910 19915 19920
 Gln Lys Asn Trp Val Lys Cys Ala Val Ala Lys Ser Thr His His Val
 19925 19930 19935
 Val Ser Gly Leu Arg Glu Asn Ser Glu Tyr Phe Phe Arg Val Phe Ala

19940	19945	19950
Glu Asn Gln Ala Gly Leu Ser Asp Pro.Arg	Glu Leu Leu Leu Pro Val	
19955	19960	19965
Leu Ile Lys Glu Gln Leu Glu Pro Pro Glu	Ile Asp Met Lys Asn Phe	
19970	19975	19980
Pro Ser His Thr Val Tyr Val Arg Ala Gly	Ser Asn Leu Lys Val Asp	
19985	19990	19995
Ile Pro Ile Ser Gly Lys Pro Leu Pro Lys	Val Thr Leu Ser Arg Asp	20000
20005	20010	20015
Gly Val Pro Leu Lys Ala Thr Met Arg Phe	Asn Thr Glu Ile Thr Ala	
20020	20025	20030
Glu Asn Leu Thr Ile Asn Leu Lys Glu Ser	Val Thr Ala Asp Ala Gly	
20035	20040	20045
Arg Tyr Glu Ile Thr Ala Ala Asn Ser Ser	Gly Thr Thr Lys Ala Phe	
20050	20055	20060
Ile Asn Ile Val Val Leu Asp Arg Pro Gly	Pro Pro Thr Gly Pro Val	
20065	20070	20075
Val Ile Ser Asp Ile Thr Glu Glu Ser Val	Thr Leu Lys Trp Glu Pro	
20085	20090	20095
Pro Lys Tyr Asp Gly Gly Ser Gln Val	Thr Asn Tyr Ile Leu Leu Lys	
20100	20105	20110
Arg Glu Thr Ser Thr Ala Val Trp Thr Glu	Val Ser Ala Thr Val Ala	
20115	20120	20125
Arg Thr Met Met Lys Val Met Lys Leu Thr	Thr Gly Glu Glu Tyr Gln	
20130	20135	20140
Phe Arg Ile Lys Ala Glu Asn Arg Phe Gly	Ile Ser Asp His Ile Asp	
20145	20150	20155
Ser Ala Cys Val Thr Val Lys Leu Pro	Tyr Thr Pro Gly Pro Pro	20160
20165	20170	20175
Ser Thr Pro Trp Val Thr Asn Val Thr Arg	Glu Ser Ile Thr Val Gly	
20180	20185	20190
Trp His Glu Pro Val Ser Asn Gly Gly Ser	Ala Val Val Gly Tyr His	
20195	20200	20205
Leu Glu Met Lys Asp Arg Asn Ser Ile Leu	Trp Gln Lys Ala Asn Lys	
20210	20215	20220
Leu Val Ile Arg Thr Thr His Phe Lys Val	Thr Thr Ile Ser Ala Gly	
20225	20230	20235
Leu Ile Tyr Glu Phe Arg Val Tyr Ala Glu	Asn Ala Ala Gly Val Gly	
20245	20250	20255
Lys Pro Ser His Pro Ser Glu Pro Val	Leu Ala Ile Asp Ala Cys Glu	
20260	20265	20270
Pro Pro Arg Asn Val Arg Ile Thr Asp Ile	Ser Lys Asn Ser Val Ser	
20275	20280	20285
Leu Ser Trp Gln Gln Pro Ala Phe Asp Gly	Gly Ser Lys Ile Thr Gly	
20290	20295	20300
Tyr Ile Val Glu Arg Arg Asp Leu Pro Asp	Gly Arg Trp Thr Lys Ala	
20305	20310	20315
Ser Phe Thr Asn Val Thr Glu Thr Gln Phe	Thr Ile Ser Gly Leu Thr	
20325	20330	20335
Gln Asn Ser Gln Tyr Glu Phe Arg Val Phe	Ala Arg Asn Ala Val Gly	
20340	20345	20350
Ser Ile Ser Asn Pro Ser Glu Val Val Gly	Pro Ile Thr Cys Ile Asp	
20355	20360	20365
Ser Tyr Gly Gly Pro Val Ile Asp Leu Pro	Leu Glu Tyr Thr Glu Val	
20370	20375	20380
Val Lys Tyr Arg Ala Gly Thr Ser Val Lys	Leu Arg Ala Gly Ile Ser	
20385	20390	20395
Gly Lys Pro Ala Pro Thr Ile Glu Trp Tyr	Lys Asp Asp Lys Glu Leu	20400
20405	20410	20415

Gln Thr Asn Ala Leu Val Cys Val Glu Asn Thr Thr Asp Leu Ala Ser
 20420 20425 20430
 Ile Leu Ile Lys Asp Ala Asp Arg Leu Asn Ser Gly Tyr Glu Leu
 20435 20440 20445
 Lys Leu Arg Asn Ala Met Ala Ser Ala Ser Ala Thr Ile Arg Val Gln
 20450 20455 20460
 Ile Leu Asp Lys Pro Gly Pro Pro Gly Gly Pro Ile Glu Phe Lys Thr
 20465 20470 20475 20480
 Val Thr Ala Glu Lys Ile Thr Leu Leu Trp Arg Pro Pro Ala Asp Asp
 20485 20490 20495
 Gly Gly Ala Lys Ile Thr His Tyr Ile Val Glu Lys Arg Glu Thr Ser
 20500 20505 20510
 Arg Val Val Trp Ser Met Val Ser Glu His Leu Glu Glu Cys Ile Ile
 20515 20520 20525
 Thr Thr Thr Lys Ile Ile Lys Gly Asn Glu Tyr Ile Phe Arg Val Arg
 20530 20535 20540
 Ala Val Asn Lys Tyr Gly Ile Gly Glu Pro Leu Glu Ser Asp Ser Val
 20545 20550 20555 20560
 Val Ala Lys Asn Ala Phe Val Thr Pro Gly Pro Pro Gly Ile Pro Glu
 20565 20570 20575
 Val Thr Lys Ile Thr Lys Asn Ser Met Thr Val Val Trp Ser Arg Pro
 20580 20585 20590
 Ile Ala Asp Gly Gly Ser Asp Ile Ser Gly Tyr Phe Leu Glu Lys Arg
 20595 20600 20605
 Asp Lys Lys Ser Leu Gly Trp Phe Lys Val Leu Lys Glu Thr Ile Arg
 20610 20615 20620
 Asp Thr Arg Gln Lys Val Thr Gly Leu Thr Glu Asn Ser Asp Tyr Gln
 20625 20630 20635 20640
 Tyr Arg Val Cys Ala Val Asn Ala Ala Gly Gln Gly Pro Phe Ser Glu
 20645 20650 20655
 Pro Ser Glu Phe Tyr Lys Ala Ala Asp Pro Ile Asp Pro Pro Gly Pro
 20660 20665 20670
 Pro Ala Lys Ile Arg Ile Ala Asp Ser Thr Lys Ser Ser Ile Thr Leu
 20675 20680 20685
 Gly Trp Ser Lys Pro Val Tyr Asp Gly Gly Ser Ala Val Thr Gly Tyr
 20690 20695 20700
 Val Val Glu Ile Arg Gln Gly Glu Glu Glu Trp Thr Val Ser
 20705 20710 20715 20720
 Thr Lys Gly Glu Val Arg Thr Thr Glu Tyr Val Val Ser Asn Leu Lys
 20725 20730 20735
 Pro Gly Val Asn Tyr Tyr Phe Arg Val Ser Ala Val Asn Cys Ala Gly
 20740 20745 20750
 Gln Gly Glu Pro Ile Glu Met Asn Glu Pro Val Gln Ala Lys Asp Ile
 20755 20760 20765
 Leu Glu Ala Pro Glu Ile Asp Leu Asp Val Ala Leu Arg Thr Ser Val
 20770 20775 20780
 Ile Ala Lys Ala Gly Glu Asp Val Gln Val Leu Ile Pro Phe Lys Gly
 20785 20790 20795 20800
 Arg Pro Pro Pro Thr Val Thr Trp Arg Lys Asp Glu Lys Asn Leu Gly
 20805 20810 20815
 Ser Asp Ala Arg Tyr Ser Ile Glu Asn Thr Asp Ser Ser Ser Leu Leu
 20820 20825 20830
 Thr Ile Pro Gln Val Thr Arg Asn Asp Thr Gly Lys Tyr Ile Leu Thr
 20835 20840 20845
 Ile Glu Asn Gly Val Gly Glu Pro Lys Ser Ser Thr Val Ser Val Lys
 20850 20855 20860
 Val Leu Asp Thr Pro Ala Ala Cys Gln Lys Leu Gln Val Lys His Val
 20865 20870 20875 20880
 Ser Arg Gly Thr Val Thr Leu Leu Trp Asp Pro Pro Leu Ile Asp Gly

20885	20890	20895
Gly Ser Pro Ile Ile Asn Tyr Val Ile	Glu Lys Arg Asp Ala Thr Lys	
20900	20905	20910
Arg Thr Trp Ser Val Val Ser His Lys Cys Ser Ser Thr Ser Phe Lys		
20915	20920	20925
Leu Ile Asp Leu Ser Glu Lys Thr Pro Phe Phe Arg Val Leu Ala		
20930	20935	20940
Glu Asn Glu Ile Gly Ile Gly Glu Pro Cys Glu Thr Thr Glu Pro Val		
20945	20950	20955
Lys Ala Ala Glu Val Pro Ala Pro Ile Arg Asp Leu Ser Met Lys Asp		
20965	20970	20975
Ser Thr Lys Thr Ser Val Ile Leu Ser Trp Thr Lys Pro Asp Phe Asp		
20980	20985	20990
Gly Gly Ser Val Ile Thr Glu Tyr Val Val Glu Arg Lys Gly Lys Gly		
20995	21000	21005
Glu Gln Thr Trp Ser His Ala Gly Ile Ser Lys Thr Cys Glu Ile Glu		
21010	21015	21020
Val Ser Gln Leu Lys Glu Gln Ser Val Leu Glu Phe Arg Val Phe Ala		
21025	21030	21035
Lys Asn Glu Lys Gly Leu Ser Asp Pro Val Thr Ile Gly Pro Ile Thr		
21045	21050	21055
Val Lys Glu Leu Ile Ile Thr Pro Glu Val Asp Leu Ser Asp Ile Pro		
21060	21065	21070
Gly Ala Gln Val Thr Val Arg Ile Gly His Asn Val His Leu Glu Leu		
21075	21080	21085
Pro Tyr Lys Gly Lys Pro Lys Pro Ser Ile Ser Trp Leu Lys Asp Gly		
21090	21095	21100
Leu Pro Leu Lys Glu Ser Glu Phe Val Arg Phe Ser Lys Thr Glu Asn		
21105	21110	21115
Lys Ile Thr Leu Ser Ile Lys Asn Ala Lys Lys Glu His Gly Gly Lys		
21125	21130	21135
Tyr Thr Val Ile Leu Asp Asn Ala Val Cys Arg Ile Ala Val Pro Ile		
21140	21145	21150
Thr Val Ile Thr Leu Gly Pro Pro Ser Lys Pro Lys Gly Pro Ile Arg		
21155	21160	21165
Phe Asp Glu Ile Lys Ala Asp Ser Val Ile Leu Ser Trp Asp Val Pro		
21170	21175	21180
Glu Asp Asn Gly Gly Glu Ile Thr Cys Tyr Ser Ile Glu Lys Arg		
21185	21190	21195
Glu Thr Ser Gln Thr Asn Trp Lys Met Val Cys Ser Ser Val Ala Arg		
21205	21210	21215
Thr Thr Phe Lys Val Pro Asn Leu Val Lys Asp Ala Glu Tyr Gln Phe		
21220	21225	21230
Arg Val Arg Ala Glu Asn Arg Tyr Gly Val Ser Gln Pro Leu Val Ser		
21235	21240	21245
Ser Ile Ile Val Ala Lys His Gln Phe Arg Ile Pro Gly Pro Pro Gly		
21250	21255	21260
Lys Pro Val Ile Tyr Asn Val Thr Ser Asp Gly Met Ser Leu Thr Trp		
21265	21270	21275
Asp Ala Pro Val Tyr Asp Gly Ser Glu Val Thr Gly Phe His Val		
21285	21290	21295
Glu Lys Lys Glu Arg Asn Ser Ile Leu Trp Gln Lys Val Asn Thr Ser		
21300	21305	21310
Pro Ile Ser Gly Arg Glu Tyr Arg Ala Thr Gly Leu Val Glu Gly Leu		
21315	21320	21325
Asp Tyr Gln Phe Arg Val Tyr Ala Glu Asn Ser Ala Gly Leu Ser Ser		
21330	21335	21340
Pro Ser Asp Pro Ser Lys Phe Thr Leu Ala Val Ser Pro Val Asp Pro		
21345	21350	21355
		21360

Pro Gly Thr Pro Asp Tyr Ile Asp Val Thr Arg Glu Thr Ile Thr Leu
 21365 .21370. 21375
 Lys Trp Asn Pro Pro Leu Arg Asp Gly Gly Ser Lys Ile Val Gly Tyr
 21380 21385 21390
 Ser Ile Glu Lys Arg Gln Gly Asn Glu Arg Trp Val Arg Cys Asn Phe
 21395 21400 21405
 Thr Asp Val Ser Glu Cys Gln Tyr Thr Val Thr Gly Leu Ser Pro Gly
 21410 21415 21420
 Asp Arg Tyr Glu Phe Arg Ile Ile Ala Arg Asn Ala Val Gly Thr Ile
 21425 21430 21435 21440
 Ser Pro Pro Ser Gln Ser Ser Gly Ile Ile Met Thr Arg Asp Glu Asn
 21445 21450 21455
 Val Pro Pro Ile Val Glu Phe Gly Pro Glu Tyr Phe Asp Gly Leu Ile
 21460 21465 21470
 Ile Lys Ser Gly Glu Ser Leu Arg Ile Lys Ala Leu Val Gln Gly Arg
 21475 21480 21485
 Pro Val Pro Arg Val Thr Trp Phe Lys Asp Gly Val Glu Ile Glu Lys
 21490 21495 21500
 Arg Met Asn Met Glu Ile Thr Asn Val Leu Gly Ser Thr Ser Leu Phe
 21505 21510 21515 21520
 Val Arg Asp Ala Thr Arg Asp His Arg Gly Val Tyr Thr Val Glu Ala
 21525 21530 21535
 Lys Asn Ala Ser Gly Ser Ala Lys Ala Glu Ile Lys Val Lys Val Gln
 21540 21545 21550
 Asp Thr Pro Gly Lys Val Val Gly Pro Ile Arg Phe Thr Asn Ile Thr
 21555 21560 21565
 Gly Glu Lys Met Thr Leu Trp Trp Asp Ala Pro Leu Asn Asp Gly Cys
 21570 21575 21580
 Ala Pro Ile Thr His Tyr Ile Ile Glu Lys Arg Glu Thr Ser Arg Leu
 21585 21590 21595 21600
 Ala Trp Ala Leu Ile Glu Asp Lys Cys Glu Ala Gln Ser Tyr Thr Ala
 21605 21610 21615
 Ile Lys Leu Ile Asn Gly Asn Glu Tyr Gln Phe Arg Val Ser Ala Val
 21620 21625 21630
 Asn Lys Phe Gly Val Gly Arg Pro Leu Asp Ser Asp Pro Val Val Ala
 21635 21640 21645
 Gln Ile Gln Tyr Thr Val Pro Asp Ala Pro Gly Ile Pro Glu Pro Ser
 21650 21655 21660
 Asn Ile Thr Gly Asn Ser Ile Thr Leu Thr Trp Ala Arg Pro Glu Ser
 21665 21670 21675 21680
 Asp Gly Gly Ser Glu Ile Gln Gln Tyr Ile Leu Glu Arg Arg Glu Lys
 21685 21690 21695
 Lys Ser Thr Arg Trp Val Lys Val Ile Ser Lys Arg Pro Ile Ser Glu
 21700 21705 21710
 Thr Arg Phe Lys Val Thr Gly Leu Thr Glu Gly Asn Glu Tyr Glu Phe
 21715 21720 21725
 His Val Met Ala Glu Asn Ala Ala Gly Val Gly Pro Ala Ser Gly Ile
 21730 21735 21740
 Ser Arg Leu Ile Lys Cys Arg Glu Pro Val Asn Pro Pro Gly Pro Pro
 21745 21750 21755 21760
 Thr Val Val Lys Val Thr Asp Thr Ser Lys Thr Thr Val Ser Leu Glu
 21765 21770 21775
 Trp Ser Lys Pro Val Phe Asp Gly Gly Met Glu Ile Ile Gly Tyr Ile
 21780 21785 21790
 Ile Glu Met Cys Lys Thr Asp Leu Gly Asp Trp His Lys Val Asn Ala
 21795 21800 21805
 Glu Ala Cys Val Lys Thr Arg Tyr Thr Val Thr Asp Leu Gln Ala Gly
 21810 21815 21820
 Glu Glu Tyr Lys Phe Arg Val Ser Ala Ile Asn Gly Ala Gly Lys Gly

21825	21830	21835	21840
Asp Ser Cys Glu Val Thr Gly Thr Ile	Lys Ala Val Asp Arg	Leu Thr	
21845	21850	21855	
Ala Pro Glu Leu Asp Ile Asp Ala Asn Phe Lys Gln Thr His Val Val			
21860	21865	21870	
Arg Ala Gly Ala Ser Ile Arg Leu Phe Ile Ala Tyr Gln Gly Arg Pro			
21875	21880	21885	
Thr Pro Thr Ala Val Trp Ser Lys Pro Asp Ser Asn Leu Ser Leu Arg			
21890	21895	21900	
Ala Asp Ile His Thr Thr Asp Ser Phe Ser Thr Leu Thr Val Glu Asn			
21905	21910	21915	21920
Cys Asn Arg Asn Asp Ala Gly Lys Tyr Thr Leu Thr Val Glu Asn Asn			
21925	21930	21935	
Ser Gly Ser Lys Ser Ile Thr Phe Thr Val Lys Val Leu Asp Thr Pro			
21940	21945	21950	
Gly Pro Pro Gly Pro Ile Thr Phe Lys Asp Val Thr Arg Gly Ser Ala			
21955	21960	21965	
Thr Leu Met Trp Asp Ala Pro Leu Leu Asp Gly Gly Ala Arg Ile His			
21970	21975	21980	
His Tyr Val Val Glu Lys Arg Glu Ala Ser Arg Arg Ser Trp Gln Val			
21985	21990	21995	22000
Ile Ser Glu Lys Cys Thr Arg Gln Ile Phe Lys Val Asn Asp Leu Ala			
22005	22010	22015	
Glu Gly Val Pro Tyr Tyr Phe Arg Val Ser Ala Val Asn Glu Tyr Gly			
22020	22025	22030	
Val Gly Glu Pro Tyr Glu Met Pro Glu Pro Ile Val Ala Thr Glu Gln			
22035	22040	22045	
Pro Ala Pro Pro Arg Arg Leu Asp Val Val Asp Thr Ser Lys Ser Ser			
22050	22055	22060	
Ala Val Leu Ala Trp Leu Lys Pro Asp His Asp Gly Gly Ser Arg Ile			
22065	22070	22075	22080
Thr Gly Tyr Leu Leu Glu Met Arg Gln Lys Gly Ser Asp Leu Trp Val			
22085	22090	22095	
Glu Ala Gly His Thr Lys Gln Leu Thr Phe Thr Val Glu Arg Leu Val			
22100	22105	22110	
Glu Lys Thr Glu Tyr Glu Phe Arg Val Lys Ala Lys Asn Asp Ala Gly			
22115	22120	22125	
Tyr Ser Glu Pro Arg Glu Ala Phe Ser Ser Val Ile Ile Lys Glu Pro			
22130	22135	22140	
Gln Ile Glu Pro Thr Ala Asp Leu Thr Gly Ile Thr Asn Gln Leu Ile			
22145	22150	22155	22160
Thr Cys Lys Ala Gly Ser Pro Phe Thr Ile Asp Val Pro Ile Ser Gly			
22165	22170	22175	
Arg Pro Ala Pro Lys Val Thr Trp Lys Leu Glu Glu Met Arg Leu Lys			
22180	22185	22190	
Glu Thr Asp Arg Val Ser Ile Thr Thr Thr Lys Asp Arg Thr Thr Leu			
22195	22200	22205	
Thr Val Lys Asp Ser Met Arg Gly Asp Ser Gly Arg Tyr Phe Leu Thr			
22210	22215	22220	
Leu Glu Asn Thr Ala Gly Val Lys Thr Phe Ser Val Thr Val Val Val			
22225	22230	22235	22240
Ile Gly Arg Pro Gly Pro Val Thr Gly Pro Ile Glu Val Ser Ser Val			
22245	22250	22255	
Ser Ala Glu Ser Cys Val Leu Ser Trp Gly Glu Pro Lys Asp Gly Gly			
22260	22265	22270	
Gly Thr Glu Ile Thr Asn Tyr Ile Val Glu Lys Arg Glu Ser Gly Thr			
22275	22280	22285	
Thr Ala Trp Gln Leu Val Asn Ser Ser Val Lys Arg Thr Gln Ile Lys			
22290	22295	22300	

Val Thr His Leu Thr Lys Tyr Met Glu Tyr Ser Phe Arg Val Ser Ser
 22305 22310 22315 22320
 Glu Asn Arg Phe Gly Val Ser Lys Pro Leu Glu Ser Ala Pro Ile Ile
 22325 22330 22335
 Ala Glu His Pro Phe Val Pro Pro Ser Ala Pro Thr Arg Pro Glu Val
 22340 22345 22350
 Tyr His Val Ser Ala Asn Ala Met Ser Ile Arg Trp Glu Glu Pro Tyr
 22355 22360 22365
 His Asp Gly Gly Ser Lys Ile Ile Gly Tyr Trp Val Glu Lys Lys Glu
 22370 22375 22380
 Arg Asn Thr Ile Leu Trp Val Lys Glu Asn Lys Val Pro Cys Leu Glu
 22385 22390 22395 22400
 Cys Asn Tyr Lys Val Thr Gly Leu Val Glu Gly Leu Glu Tyr Gln Phe
 22405 22410 22415
 Arg Thr Tyr Ala Leu Asn Ala Ala Gly Val Ser Lys Ala Ser Glu Ala
 22420 22425 22430
 Ser Arg Pro Ile Met Ala Gln Asn Pro Val Asp Ala Pro Gly Arg Pro
 22435 22440 22445
 Glu Val Thr Asp Val Thr Arg Ser Thr Val Ser Leu Ile Trp Ser Ala
 22450 22455 22460
 Pro Ala Tyr Asp Gly Gly Ser Lys Val Val Gly Tyr Ile Ile Glu Arg
 22465 22470 22475 22480
 Lys Pro Val Ser Glu Val Gly Asp Gly Arg Trp Leu Lys Cys Asn Tyr
 22485 22490 22495
 Thr Ile Val Ser Asp Asn Phe Phe Thr Val Thr Ala Leu Ser Glu Gly
 22500 22505 22510
 Asp Thr Tyr Glu Phe Arg Val Leu Ala Lys Asn Ala Ala Gly Val Ile
 22515 22520 22525
 Ser Lys Gly Ser Glu Ser Thr Gly Pro Val Thr Cys Arg Asp Glu Tyr
 22530 22535 22540
 Ala Pro Pro Lys Ala Glu Leu Asp Ala Arg Leu His Gly Asp Leu Val
 22545 22550 22555 22560
 Thr Ile Arg Ala Gly Ser Asp Leu Val Leu Asp Ala Ala Val Gly Gly
 22565 22570 22575
 Lys Pro Glu Pro Lys Ile Ile Trp Thr Lys Gly Asp Lys Glu Leu Asp
 22580 22585 22590
 Leu Cys Glu Lys Val Ser Leu Gln Tyr Thr Gly Lys Arg Ala Thr Ala
 22595 22600 22605
 Val Ile Lys Phe Cys Asp Arg Ser Asp Ser Gly Lys Tyr Thr Leu Thr
 22610 22615 22620
 Val Lys Asn Ala Ser Gly Thr Lys Ala Val Ser Val Met Val Lys Val
 22625 22630 22635 22640
 Leu Asp Ser Pro Gly Pro Cys Gly Lys Leu Thr Val Ser Arg Val Thr
 22645 22650 22655
 Gln Glu Lys Cys Thr Leu Ala Trp Ser Leu Pro Gln Glu Asp Gly Gly
 22660 22665 22670
 Ala Glu Ile Thr His Tyr Ile Val Glu Arg Arg Glu Thr Ser Arg Leu
 22675 22680 22685
 Asn Trp Val Ile Val Glu Gly Glu Cys Pro Thr Leu Ser Tyr Val Val
 22690 22695 22700
 Thr Arg Leu Ile Lys Asn Asn Glu Tyr Ile Phe Arg Val Arg Ala Val
 22705 22710 22715 22720
 Asn Lys Tyr Gly Pro Gly Val Pro Val Glu Ser Glu Pro Ile Val Ala
 22725 22730 22735
 Arg Asn Ser Phe Thr Ile Pro Ser Pro Pro Gly Ile Pro Glu Glu Val
 22740 22745 22750
 Gly Thr Gly Lys Glu His Ile Ile Gln Trp Thr Lys Pro Glu Ser
 22755 22760 22765
 Asp Gly Gly Asn Glu Ile Ser Asn Tyr Leu Val Asp Lys Arg Glu Lys

22770	22775	22780
Glu Ser Leu Arg Trp Thr Arg Val Asn.Lys Asp Tyr Val Val Tyr Asp		
22785 22790 22795 22800		
Thr Arg Leu Lys Val Thr Ser Leu Met Glu Gly Cys Asp Tyr Gln Phe		
22805 22810 22815		
Arg Val Thr Ala Val Asn Ala Ala Gly Asn Ser Glu Pro Ser Glu Arg		
22820 22825 22830		
Ser Asn Phe Ile Ser Cys Arg Glu Pro Ser Tyr Thr Pro Gly Pro Pro		
22835 22840 22845		
Ser Ala Pro Arg Val Val Asp Thr Thr Lys His Ser Ile Ser Leu Ala		
22850 22855 22860		
Trp Thr Lys Pro Met Tyr Asp Gly Gly Thr Asp Ile Val Gly Tyr Val		
22865 22870 22875 22880		
Leu Glu Met Gln Glu Lys Asp Thr Asp Gln Trp Tyr Arg Val His Thr		
22885 22890 22895		
Asn Ala Thr Ile Arg Asn Thr Glu Phe Thr Val Pro Asp Leu Lys Met		
22900 22905 22910		
Gly Gln Lys Tyr Ser Phe Arg Val Ala Ala Val Asn Val Lys Gly Met		
22915 22920 22925		
Ser Glu Tyr Ser Glu Ser Ile Ala Glu Ile Glu Pro Val Glu Arg Ile		
22930 22935 22940		
Glu Ile Pro Asp Leu Glu Leu Ala Asp Asp Leu Lys Lys Thr Val Thr		
22945 22950 22955 22960		
Ile Arg Ala Gly Ala Ser Leu Arg Leu Met Val Ser Val Ser Gly Arg		
22965 22970 22975		
Pro Pro Pro Val Ile Thr Trp Ser Lys Gln Gly Ile Asp Leu Ala Ser		
22980 22985 22990		
Arg Ala Ile Ile Asp Thr Thr Glu Ser Tyr Ser Leu Leu Ile Val Asp		
22995 23000 23005		
Lys Val Asn Arg Tyr Asp Ala Gly Lys Tyr Thr Ile Glu Ala Glu Asn		
23010 23015 23020		
Gln Ser Gly Lys Lys Ser Ala Thr Val Leu Val Lys Val Tyr Asp Thr		
23025 23030 23035 23040		
Pro Gly Pro Cys Pro Ser Val Lys Val Lys Glu Val Ser Arg Asp Ser		
23045 23050 23055		
Val Thr Ile Thr Trp Glu Ile Pro Thr Ile Asp Gly Gly Ala Pro Ile		
23060 23065 23070		
Asn Asn Tyr Ile Val Glu Lys Arg Glu Ala Ala Met Arg Ala Phe Lys		
23075 23080 23085		
Thr Val Thr Thr Lys Cys Ser Lys Thr Leu Tyr Arg Ile Ser Gly Leu		
23090 23095 23100		
Val Glu Gly Thr Met His Tyr Phe Arg Val Leu Pro Glu Asn Ile Tyr		
23105 23110 23115 23120		
Gly Ile Gly Glu Pro Cys Glu Thr Ser Asp Ala Val Leu Val Ser Glu		
23125 23130 23135		
Val Pro Leu Val Pro Ala Lys Leu Glu Val Val Asp Val Thr Lys Ser		
23140 23145 23150		
Thr Val Thr Leu Ala Trp Glu Lys Pro Leu Tyr Asp Gly Gly Ser Arg		
23155 23160 23165		
Leu Thr Gly Tyr Val Leu Glu Ala Cys Lys Ala Gly Thr Glu Arg Trp		
23170 23175 23180		
Met Lys Val Val Thr Leu Lys Pro Thr Val Leu Glu His Thr Val Thr		
23185 23190 23195 23200		
Ser Leu Asn Glu Gly Glu Gln Tyr Leu Phe Arg Ile Arg Ala Gln Asn		
23205 23210 23215		
Glu Lys Gly Val Ser Glu Pro Arg Glu Thr Val Thr Ala Val Thr Val		
23220 23225 23230		
Gln Asp Leu Arg Val Leu Pro Thr Ile Asp Leu Ser Thr Met Pro Gln		
23235 23240 23245		

Lys Thr Ile His Val Pro Ala Gly Arg Pro Val Glu Leu Val Ile Pro
 23250 23255 23260
 Ile Ala Gly Arg Pro Pro Ala Ala Ser Trp Phe Phe Ala Gly Ser
 23265 23270 23275 23280
 Lys Leu Arg Glu Ser Glu Arg Val Thr Val Glu Thr His Thr Lys Val
 23285 23290 23295
 Ala Lys Leu Thr Ile Arg Glu Thr Thr Ile Arg Asp Thr Gly Glu Tyr
 23300 23305 23310
 Thr Leu Glu Leu Lys Asn Val Thr Gly Thr Thr Ser Glu Thr Ile Lys
 23315 23320 23325
 Val Ile Ile Leu Asp Lys Pro Gly Pro Pro Thr Gly Pro Ile Lys Ile
 23330 23335 23340
 Asp Glu Ile Asp Ala Thr Ser Ile Thr Ile Ser Trp Glu Pro Pro Glu
 23345 23350 23355 23360
 Leu Asp Gly Gly Ala Pro Leu Ser Gly Tyr Val Val Glu Gln Arg Asp
 23365 23370 23375
 Ala His Arg Pro Gly Trp Leu Pro Val Ser Glu Ser Val Thr Arg Ser
 23380 23385 23390
 Thr Phe Lys Phe Thr Arg Leu Thr Glu Gly Asn Glu Tyr Val Phe Arg
 23395 23400 23405
 Val Ala Ala Thr Asn Arg Phe Gly Ile Gly Ser Tyr Leu Gln Ser Glu
 23410 23415 23420
 Val Ile Glu Cys Arg Ser Ser Ile Arg Ile Pro Gly Pro Pro Glu Thr
 23425 23430 23435 23440
 Leu Gln Ile Phe Asp Val Ser Arg Asp Gly Met Thr Leu Thr Trp Tyr
 23445 23450 23455
 Pro Pro Glu Asp Asp Gly Gly Ser Gln Val Thr Gly Tyr Ile Val Glu
 23460 23465 23470
 Arg Lys Glu Val Arg Ala Asp Arg Trp Val Arg Val Asn Lys Val Pro
 23475 23480 23485
 Val Thr Met Thr Arg Tyr Arg Ser Thr Gly Leu Thr Glu Gly Leu Glu
 23490 23495 23500
 Tyr Glu His Arg Val Thr Ala Ile Asn Ala Arg Gly Ser Gly Lys Pro
 23505 23510 23515 23520
 Ser Arg Pro Ser Lys Pro Ile Val Ala Met Asp Pro Ile Ala Pro Pro
 23525 23530 23535
 Gly Lys Pro Gln Asn Pro Arg Val Thr Asp Thr Arg Thr Ser Val
 23540 23545 23550
 Ser Leu Ala Trp Ser Val Pro Glu Asp Glu Gly Gly Ser Lys Val Thr
 23555 23560 23565
 Gly Tyr Leu Ile Glu Met Gln Lys Val Asp Gln His Glu Trp Thr Lys
 23570 23575 23580
 Cys Asn Thr Thr Pro Thr Lys Ile Arg Glu Tyr Thr Leu Thr His Leu
 23585 23590 23595 23600
 Pro Gln Gly Ala Glu Tyr Arg Phe Arg Val Leu Ala Cys Asn Ala Gly
 23605 23610 23615
 Gly Pro Gly Glu Pro Ala Glu Val Pro Gly Thr Val Lys Val Thr Glu
 23620 23625 23630
 Met Leu Glu Tyr Pro Asp Tyr Glu Leu Asp Glu Arg Tyr Gln Glu Gly
 23635 23640 23645
 Ile Phe Val Arg Gln Gly Gly Val Ile Arg Leu Thr Ile Pro Ile Lys
 23650 23655 23660
 Gly Lys Pro Phe Pro Ile Cys Lys Trp Thr Lys Glu Gly Gln Asp Ile
 23665 23670 23675 23680
 Ser Lys Arg Ala Met Ile Ala Thr Ser Glu Thr His Thr Glu Leu Val
 23685 23690 23695
 Ile Lys Glu Ala Asp Arg Gly Asp Ser Gly Thr Tyr Asp Leu Val Leu
 23700 23705 23710
 Glu Asn Lys Cys Gly Lys Lys Ala Val Tyr Ile Lys Val Arg Val Ile

23715	23720	23725
Gly Ser Pro Asn Ser Pro Glu Gly Pro.	Leu Glu Tyr Asp Asp Ile Gln	
23730	23735	23740
Val Arg Ser Val Arg Val Ser Trp Arg Pro	Pro Ala Asp Asp Gly Gly	
23745	23750	23755
Ala Asp Ile Leu Gly Tyr Ile Leu Glu Arg Arg Glu Val Pro	Lys Ala	23760
23765	23770	23775
Ala Trp Tyr Thr Ile Asp Ser Arg Val Arg Gly Thr Ser	Leu Val Val	
23780	23785	23790
Lys Gly Leu Lys Glu Asn Val Glu Tyr His Phe Arg Val	Ser Ala Glu	
23795	23800	23805
Asn Gln Phe Gly Ile Ser Lys Pro Leu Lys Ser Glu Glu Pro	Val Thr	
23810	23815	23820
Pro Lys Thr Pro Leu Asn Pro Pro Glu Pro	Pro Ser Asn Pro Pro	Glu
23825	23830	23835
Val Leu Asp Val Thr Lys Ser Ser Val Ser Leu Ser Trp Ser	Arg Pro	
23845	23850	23855
Lys Asp Asp Gly Gly Ser Arg Val Thr Gly Tyr Tyr Ile	Glu Arg Lys	
23860	23865	23870
Glu Thr Ser Thr Asp Lys Trp Val Arg His Asn Lys Thr	Gln Ile Thr	
23875	23880	23885
Thr Thr Met Tyr Thr Val Thr Gly Leu Val Pro Asp Ala	Glu Tyr Gln	
23890	23895	23900
Phe Arg Ile Ile Ala Gln Asn Asp Val Gly Leu Ser Glu	Thr Ser Pro	
23905	23910	23915
Ala Ser Glu Pro Val Val Cys Lys Asp Pro Phe Asp Lys	Pro Ser Gln	
23925	23930	23935
Pro Gly Glu Leu Glu Ile Leu Ser Ile Ser Lys Asp Ser	Val Thr Leu	
23940	23945	23950
Gln Trp Glu Lys Pro Glu Cys Asp Gly Gly Lys Glu	Ile Leu Gly Tyr	
23955	23960	23965
Trp Val Glu Tyr Arg Gln Ser Gly Asp Ser Ala	Trp Lys Lys Ser Asn	
23970	23975	23980
Lys Glu Arg Ile Lys Asp Lys Gln Phe Thr Ile	Gly Gly Leu Leu Glu	
23985	23990	23995
Ala Thr Glu Tyr Glu Phe Arg Val Phe Ala Glu Asn	Glu Thr Gly Leu	
24005	24010	24015
Ser Arg Pro Arg Arg Thr Ala Met Ser Ile Lys Thr Lys	Leu Thr Ser	
24020	24025	24030
Gly Glu Ala Pro Gly Ile Arg Lys Glu Met Lys Asp	Val Thr Thr Lys	
24035	24040	24045
Leu Gly Glu Ala Ala Gln Leu Ser Cys Gln Ile Val	Gly Arg Pro Leu	
24050	24055	24060
Pro Asp Ile Lys Trp Tyr Arg Phe Gly Lys Glu	Leu Ile Gln Ser Arg	
24065	24070	24075
Lys Tyr Lys Met Ser Ser Asp Gly Arg Thr His	Thr Leu Thr Val Met	
24085	24090	24095
Thr Glu Glu Gln Glu Asp Glu Gly Val Tyr Thr Cys	Ile Ala Thr Asn	
24100	24105	24110
Glu Val Gly Glu Val Glu Thr Ser Ser Lys Leu Leu	Leu Gln Ala Thr	
24115	24120	24125
Pro Gln Phe His Pro Gly Tyr Pro Leu Lys Glu Lys	Tyr Tyr Gly Ala	
24130	24135	24140
Val Gly Ser Thr Leu Arg Leu His Val Met Tyr	Ile Gly Arg Pro Val	
24145	24150	24155
Pro Ala Met Thr Trp Phe His Gly Gln Lys Leu Leu	Gln Asn Ser Glu	
24165	24170	24175
Asn Ile Thr Ile Glu Asn Thr Glu His Tyr Thr His	Leu Val Met Lys	
24180	24185	24190

Asn Val Gln Arg Lys Thr His Ala Gly Lys Tyr Lys Val Gln Leu Ser
 24195 24200 24205
 Asn Val Phe Gly Thr Val Asp Ala Ile Leu Asp Val Glu Ile Gln Asp
 24210 24215 24220
 Lys Pro Asp Lys Pro Thr Gly Pro Ile Val Ile Glu Ala Leu Leu Lys
 24225 24230 24235 24240
 Asn Ser Ala Val Ile Ser Trp Lys Pro Pro Ala Asp Asp Gly Gly Ser
 24245 24250 24255
 Trp Ile Thr Asn Tyr Val Val Glu Lys Cys Glu Ala Lys Glu Gly Ala
 24260 24265 24270
 Glu Trp Gln Leu Val Ser Ser Ala Ile Ser Val Thr Thr Cys Arg Ile
 24275 24280 24285
 Val Asn Leu Thr Glu Asn Ala Gly Tyr Tyr Phe Arg Val Ser Ala Gln
 24290 24295 24300
 Asn Thr Phe Gly Ile Ser Asp Pro Leu Glu Val Ser Ser Val Val Ile
 24305 24310 24315 24320
 Ile Lys Ser Pro Phe Glu Lys Pro Gly Ala Pro Gly Lys Pro Thr Ile
 24325 24330 24335
 Thr Ala Val Thr Lys Asp Ser Cys Val Val Ala Trp Lys Pro Pro Ala
 24340 24345 24350
 Ser Asp Gly Gly Ala Lys Ile Arg Asn Tyr Tyr Leu Glu Lys Arg Glu
 24355 24360 24365
 Lys Lys Gln Asn Lys Trp Ile Ser Val Thr Thr Glu Glu Ile Arg Glu
 24370 24375 24380
 Thr Val Phe Ser Val Lys Asn Leu Ile Glu Gly Leu Glu Tyr Glu Phe
 24385 24390 24395 24400
 Arg Val Lys Cys Glu Asn Leu Gly Gly Glu Ser Glu Trp Ser Glu Ile
 24405 24410 24415
 Ser Glu Pro Ile Thr Pro Lys Ser Asp Val Pro Ile Gln Ala Pro His
 24420 24425 24430
 Phe Lys Glu Glu Leu Arg Asn Leu Asn Val Arg Tyr Gln Ser Asn Ala
 24435 24440 24445
 Thr Leu Val Cys Lys Val Thr Gly His Pro Lys Pro Ile Val Lys Trp
 24450 24455 24460
 Tyr Arg Gln Gly Lys Glu Ile Ile Ala Asp Gly Leu Lys Tyr Arg Ile
 24465 24470 24475 24480
 Gln Glu Phe Lys Gly Gly Tyr His Gln Leu Ile Ile Ala Ser Val Thr
 24485 24490 24495
 Asp Asp Asp Ala Thr Val Tyr Gln Val Arg Ala Thr Asn Gln Gly Gly
 24500 24505 24510
 Ser Val Ser Gly Thr Ala Ser Leu Glu Val Glu Val Pro Ala Lys Ile
 24515 24520 24525
 His Leu Pro Lys Thr Leu Glu Gly Met Gly Ala Val His Ala Leu Arg
 24530 24535 24540
 Gly Glu Val Val Ser Ile Lys Ile Pro Phe Ser Gly Lys Pro Asp Pro
 24545 24550 24555 24560
 Val Ile Thr Trp Gln Lys Gly Gln Asp Leu Ile Asp Asn Asn Gly His
 24565 24570 24575
 Tyr Gln Val Ile Val Thr Arg Ser Phe Thr Ser Leu Val Phe Pro Asn
 24580 24585 24590
 Gly Val Glu Arg Lys Asp Ala Gly Phe Tyr Val Val Cys Ala Lys Asn
 24595 24600 24605
 Arg Phe Gly Ile Asp Gln Lys Thr Val Glu Leu Asp Val Ala Asp Val
 24610 24615 24620
 Pro Asp Pro Pro Arg Gly Val Lys Val Ser Asp Ala Ser Arg Asp Ser
 24625 24630 24635 24640
 Val Asn Leu Thr Trp Thr Glu Pro Ala Ser Asp Gly Gly Ser Lys Ile
 24645 24650 24655
 Thr Asn Tyr Ile Val Glu Lys Cys Ala Thr Thr Ala Glu Arg Trp Leu

24660	24665	24670
Arg Val Gly Gln Ala Arg Glu Thr Arg	Tyr Thr Val Ile Asn Leu Phe	
24675	24680	24685
Gly Lys Thr Ser Tyr Gln Phe Arg Val Ile Ala Glu Asn Lys Phe Gly		
24690	24695	24700
Leu Ser Lys Pro Ser Glu Pro Ser Glu Pro Thr Ile Thr Lys Glu Asp		
24705	24710	24715
Lys Thr Arg Ala Met Asn Tyr Asp Glu Glu Val Asp Glu Thr Arg Glu		24720
24725	24730	24735
Val Ser Met Thr Lys Ala Ser His Ser Ser Thr Lys Glu Leu Tyr Glu		
24740	24745	24750
Lys Tyr Met Ile Ala Glu Asp Leu Gly Arg Gly Glu Phe Gly Ile Val		
24755	24760	24765
His Arg Cys Val Glu Thr Ser Ser Lys Lys Thr Tyr Met Ala Lys Phe		
24770	24775	24780
Val Lys Val Lys Gly Thr Asp Gln Val Leu Val Lys Lys Glu Ile Ser		
24785	24790	24795
Ile Leu Asn Ile Ala Arg His Arg Asn Ile Leu His Leu His Glu Ser		24800
24805	24810	24815
Phe Glu Ser Met Glu Glu Leu Val Met Ile Phe Glu Phe Ile Ser Gly		
24820	24825	24830
Leu Asp Ile Phe Glu Arg Ile Asn Thr Ser Ala Phe Glu Leu Asn Glu		
24835	24840	24845
Arg Glu Ile Val Ser Tyr Val His Gln Val Cys Glu Ala Leu Gln Phe		
24850	24855	24860
Leu His Ser His Asn Ile Gly His Phe Asp Ile Arg Pro Glu Asn Ile		
24865	24870	24875
Ile Tyr Gln Thr Arg Arg Ser Ser Thr Ile Lys Ile Ile Glu Phe Gly		24880
24885	24890	24895
Gln Ala Arg Gln Leu Lys Pro Gly Asp Asn Phe Arg Leu Leu Phe Thr		
24900	24905	24910
Ala Pro Glu Tyr Tyr Ala Pro Glu Val His Gln His Asp Val Val Ser		
24915	24920	24925
Thr Ala Thr Asp Met Trp Ser Leu Gly Thr Leu Val Tyr Val Leu Leu		
24930	24935	24940
Ser Gly Ile Asn Pro Phe Leu Ala Glu Thr Asn Gln Gln Ile Ile Glu		
24945	24950	24955
Asn Ile Met Asn Ala Glu Tyr Thr Phe Asp Glu Glu Ala Phe Lys Glu		
24965	24970	24975
Ile Ser Ile Glu Ala Met Asp Phe Val Asp Arg Leu Leu Val Lys Glu		
24980	24985	24990
Arg Lys Ser Arg Met Thr Ala Ser Glu Ala Leu Gln His Pro Trp Leu		
24995	25000	25005
Lys Gln Lys Ile Glu Arg Val Ser Thr Lys Val Ile Arg Thr Leu Lys		
25010	25015	25020
His Arg Arg Tyr Tyr His Thr Leu Ile Lys Lys Asp Leu Asn Met Val		
25025	25030	25035
Val Ser Ala Ala Arg Ile Ser Cys Gly Gly Ala Ile Arg Ser Gln Lys		25040
25045	25050	25055
Gly Val Ser Val Ala Lys Val Lys Val Ala Ser Ile Glu Ile Gly Pro		
25060	25065	25070
Val Ser Gly Gln Ile Met His Ala Val Gly Glu Glu Gly Gly His Val		
25075	25080	25085
Lys Tyr Val Cys Lys Ile Glu Asn Tyr Asp Gln Ser Thr Gln Val Thr		
25090	25095	25100
Trp Tyr Phe Gly Val Arg Gln Leu Glu Asn Ser Glu Lys Tyr Glu Ile		
25105	25110	25115
Thr Tyr Glu Asp Gly Val Ala Ile Leu Tyr Val Lys Asp Ile Thr Lys		25120
25125	25130	25135

Leu Asp Asp Gly Thr Tyr Arg Cys Lys Val Val Asn Asp Tyr Gly Glu
 25140 25145 25150
 Asp Ser Ser Tyr Ala Glu Leu Phe Val Lys Gly Val Arg Glu Val Tyr
 25155 25160 25165
 Asp Tyr Tyr Cys Arg Arg Thr Met Lys Lys Ile Lys Arg Arg Thr Asp
 25170 25175 25180
 Thr Met Arg Leu Leu Glu Arg Pro Pro Glu Phe Thr Leu Pro Leu Tyr
 25185 25190 25195 25200
 Asn Lys Thr Ala Tyr Val Gly Glu Asn Val Arg Phe Gly Val Thr Ile
 25205 25210 25215
 Thr Val His Pro Glu Pro His Val Thr Trp Tyr Lys Ser Gly Gln Lys
 25220 25225 25230
 Ile Lys Pro Gly Asp Asn Asp Lys Lys Tyr Thr Phe Glu Ser Asp Lys
 25235 25240 25245
 Gly Leu Tyr Gln Leu Thr Ile Asn Ser Val Thr Thr Asp Asp Asp Ala
 25250 25255 25260
 Glu Tyr Thr Val Val Ala Arg Asn Lys Tyr Gly Glu Asp Ser Cys Lys
 25265 25270 25275 25280
 Ala Lys Leu Thr Val Thr Leu His Pro Pro Pro Thr Asp Ser Thr Leu
 25285 25290 25295
 Arg Pro Met Phe Lys Arg Leu Leu Ala Asn Ala Glu Cys Gln Glu Gly
 25300 25305 25310
 Gln Ser Val Cys Phe Glu Ile Arg Val Ser Gly Ile Pro Pro Pro Thr
 25315 25320 25325
 Leu Lys Trp Glu Lys Asp Gly Gln Pro Leu Ser Leu Gly Pro Asn Ile
 25330 25335 25340
 Glu Ile Ile His Glu Leu Asp Tyr Tyr Ala Leu His Ile Arg Asp
 25345 25350 25355 25360
 Thr Leu Pro Glu Asp Thr Gly Tyr Tyr Arg Val Thr Ala Thr Asn Thr
 25365 25370 25375
 Ala Gly Ser Thr Ser Cys Gln Ala His Leu Gln Val Glu Arg Leu Arg
 25380 25385 25390
 Tyr Lys Lys Gln Glu Phe Lys Ser Lys Glu Glu His Glu Arg His Val
 25395 25400 25405
 Gln Lys Gln Ile Asp Lys Thr Leu Arg Met Ala Glu Ile Leu Ser Gly
 25410 25415 25420
 Thr Glu Ser Val Pro Leu Thr Gln Val Ala Lys Glu Ala Leu Arg Glu
 25425 25430 25435 25440
 Ala Ala Val Leu Tyr Lys Pro Ala Val Ser Thr Lys Thr Val Lys Gly
 25445 25450 25455
 Glu Phe Arg Leu Glu Ile Glu Glu Lys Lys Glu Glu Arg Lys Leu Arg
 25460 25465 25470
 Met Pro Tyr Asp Val Pro Glu Pro Arg Lys Tyr Lys Gln Thr Thr Ile
 25475 25480 25485
 Glu Glu Asp Gln Arg Ile Lys Gln Phe Val Pro Met Ser Asp Met Lys
 25490 25495 25500
 Trp Tyr Lys Lys Ile Arg Asp Gln Tyr Glu Met Pro Gly Lys Leu Asp
 25505 25510 25515 25520
 Arg Val Val Gln Lys Arg Pro Lys Arg Ile Arg Leu Ser Arg Trp Glu
 25525 25530 25535
 Gln Phe Tyr Val Met Pro Leu Pro Arg Ile Thr Asp Gln Tyr Arg Pro
 25540 25545 25550
 Lys Trp Arg Ile Pro Lys Leu Ser Gln Asp Asp Leu Glu Ile Val Arg
 25555 25560 25565
 Pro Ala Arg Arg Arg Thr Pro Ser Pro Asp Tyr Asp Phe Tyr Tyr Arg
 25570 25575 25580
 Pro Arg Arg Arg Ser Leu Gly Asp Ile Ser Asp Glu Glu Leu Leu Leu
 25585 25590 25595 25600
 Pro Ile Asp Asp Tyr Leu Ala Met Lys Arg Thr Glu Glu Arg Leu

25605	25610	25615
Arg Leu Glu Glu Glu Leu Glu Leu Gly	Phe Ser Ala Ser Pro Pro Ser	
25620	25625	25630
Arg Ser Pro Pro His Phe Glu Leu Ser Ser Leu Arg Tyr Ser Ser Pro		
25635	25640	25645
Gln Ala His Val Lys Val Glu Glu Thr Arg Lys Asn Phe Arg Tyr Ser		
25650	25655	25660
Thr Tyr His Ile Pro Thr Lys Ala Glu Ala Ser Thr Ser Tyr Ala Glu		
25665	25670	25675
Leu Arg Glu Arg His Ala Gln Ala Ala Tyr Arg Gln Pro Lys Gln Arg		
25685	25690	25695
Gln Arg Ile Met Ala Glu Arg Glu Asp Glu Glu Leu Leu Arg Pro Val		
25700	25705	25710
Thr Thr Thr Gln His Leu Ser Glu Tyr Lys Ser Glu Leu Asp Phe Met		
25715	25720	25725
Ser Lys Glu Glu Lys Ser Arg Lys Lys Ser Arg Arg Gln Arg Glu Val		
25730	25735	25740
Thr Glu Ile Thr Glu Ile Glu Glu Glu Tyr Glu Ile Ser Lys His Ala		
25745	25750	25755
Gln Arg Glu Ser Ser Ser Ala Ser Arg Leu Leu Arg Arg Arg Arg		
25765	25770	25775
Ser Leu Ser Pro Thr Tyr Ile Glu Leu Met Arg Pro Val Ser Glu Leu		
25780	25785	25790
Ile Arg Ser Arg Pro Gln Pro Ala Glu Glu Tyr Glu Asp Asp Thr Glu		
25795	25800	25805
Arg Arg Ser Pro Thr Pro Glu Arg Thr Arg Pro Arg Ser Pro Ser Pro		
25810	25815	25820
Val Ser Ser Glu Arg Ser Leu Ser Arg Phe Glu Arg Ser Ala Arg Phe		
25825	25830	25835
Asp Ile Phe Ser Arg Tyr Glu Ser Met Lys Ala Ala Leu Lys Thr Gln		
25845	25850	25855
Lys Thr Ser Glu Arg Lys Tyr Glu Val Leu Ser Gln Gln Pro Phe Thr		
25860	25865	25870
Leu Asp His Ala Pro Arg Ile Thr Leu Arg Met Arg Ser His Arg Val		
25875	25880	25885
Pro Cys Gly Gln Asn Thr Arg Phe Ile Leu Asn Val Gln Ser Lys Pro		
25890	25895	25900
Thr Ala Glu Val Lys Trp Tyr His Asn Gly Val Glu Leu Gln Glu Ser		
25905	25910	25915
Ser Lys Ile His Tyr Thr Asn Thr Ser Gly Val Leu Thr Leu Glu Ile		
25925	25930	25935
Leu Asp Cys His Thr Asp Asp Ser Gly Thr Tyr Arg Ala Val Cys Thr		
25940	25945	25950
Asn Tyr Lys Gly Glu Ala Ser Asp Tyr Ala Thr Leu Asp Val Thr Gly		
25955	25960	25965
Gly Asp Tyr Thr Thr Tyr Ala Ser Gln Arg Arg Asp Glu Glu Val Pro		
25970	25975	25980
Arg Ser Val Phe Pro Glu Leu Thr Arg Thr Glu Ala Tyr Ala Val Pro		
25985	25990	25995
Ser Phe Lys Lys Thr Ser Glu Met Glu Ala Ser Ser Ser Val Arg Glu		
26005	26010	26015
Val Lys Ser Gln Met Thr Glu Thr Arg Glu Ser Leu Ser Ser Tyr Glu		
26020	26025	26030
His Ser Ala Ser Ala Glu Met Lys Ser Ala Ala Leu Glu Glu Lys Ser		
26035	26040	26045
Leu Glu Glu Lys Ser Thr Thr Arg Lys Ile Lys Thr Thr Leu Ala Ala		
26050	26055	26060
Arg Ile Leu Thr Lys Pro Arg Ser Met Thr Val Tyr Glu Gly Glu Ser		
26065	26070	26075
		26080

Ala Arg Phe Ser Cys Asp Thr Asp Gly Glu Pro Val Pro Thr Val Thr
 26085 26090 26095
 Trp Leu Arg Lys Gly Gln Val Leu Ser Thr Ser Ala Arg His Gln Val
 26100 26105 26110
 Thr Thr Lys Tyr Lys Ser Thr Phe Glu Ile Ser Ser Val Gln Ala
 26115 26120 26125
 Ser Asp Glu Gly Asn Tyr Ser Val Val Val Glu Asn Ser Glu Gly Lys
 26130 26135 26140
 Gln Glu Ala Glu Phe Thr Leu Thr Ile Gln Lys Ala Arg Val Thr Glu
 26145 26150 26155 26160
 Lys Ala Val Thr Ser Pro Pro Arg Val Lys Ser Pro Glu Pro Arg Val
 26165 26170 26175
 Lys Ser Pro Glu Ala Val Lys Ser Pro Lys Arg Val Lys Ser Pro Glu
 26180 26185 26190
 Pro Ser His Pro Lys Ala Val Ser Pro Thr Glu Thr Lys Pro Thr Pro
 26195 26200 26205
 Arg Glu Lys Val Gln His Leu Pro Val Ser Ala Pro Pro Lys Ile Thr
 26210 26215 26220
 Gln Phe Leu Lys Ala Glu Ala Ser Lys Glu Ile Ala Lys Leu Thr Cys
 26225 26230 26235 26240
 Val Val Glu Ser Ser Val Leu Arg Ala Lys Glu Val Thr Trp Tyr Lys
 26245 26250 26255
 Asp Gly Lys Lys Leu Lys Glu Asn Gly His Phe Gln Phe His Tyr Ser
 26260 26265 26270
 Ala Asp Gly Thr Tyr Glu Leu Lys Ile Asn Asn Leu Thr Glu Ser Asp
 26275 26280 26285
 Gln Gly Glu Tyr Val Cys Glu Ile Ser Gly Glu Gly Gly Thr Ser Lys
 26290 26295 26300
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Leu Thr Val Ala Cys Ala Phe Thr Gly Glu Pro Thr Pro Glu Val Thr			
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Trp Ser Cys Gly Gly Arg Lys Ile His Ser Gln Glu Gln Gly Arg Phe			
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His Ile Glu Asn Thr Asp Asp Leu Thr Thr Leu Ile Ile Met Asp Val			
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Gln Lys Gln Asp Gly Gly Leu Tyr Thr Leu Ser Leu Gly Asn Glu Phe			
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